TECHNOLOGY DEPT.

July 10, 1940

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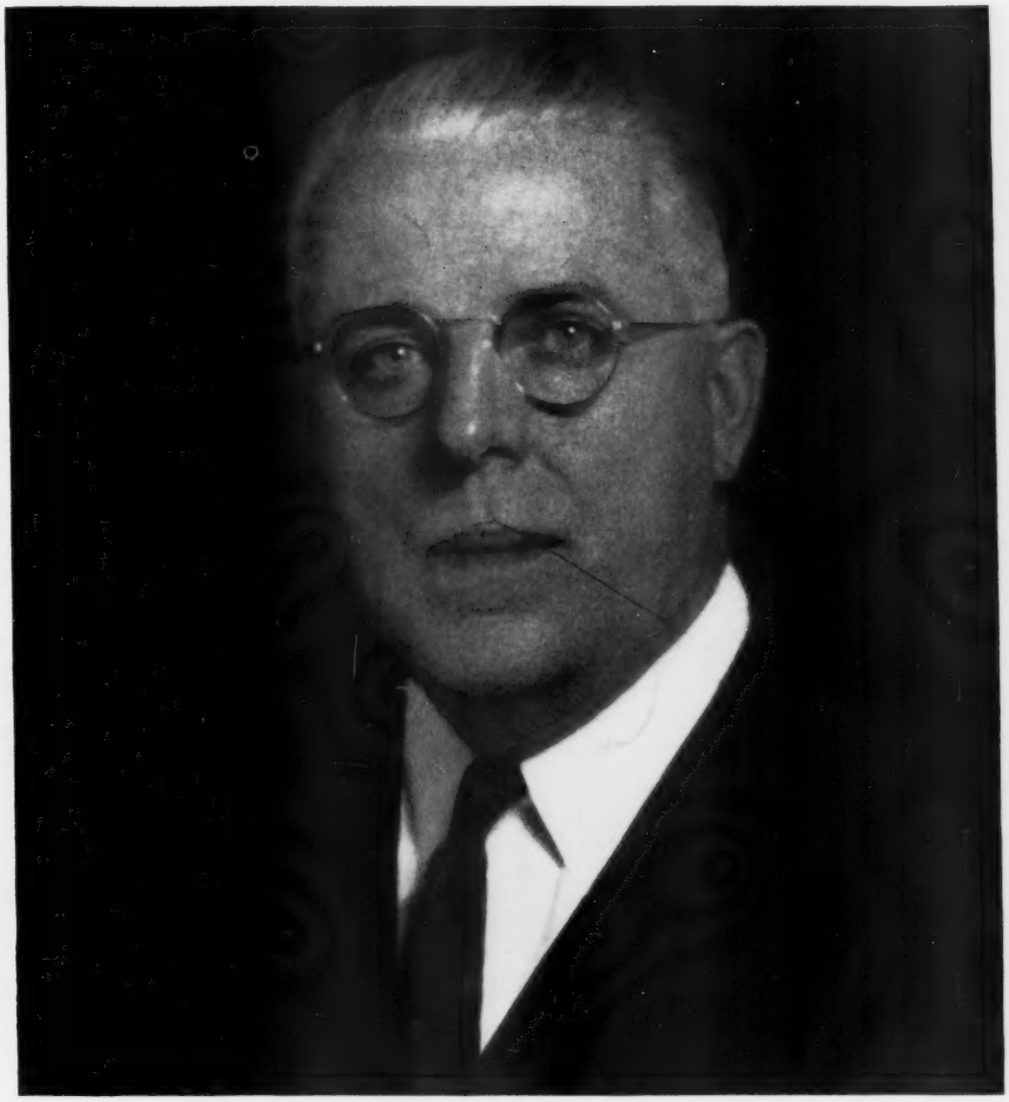
NATIONAL PETROLEUM NEWS



J. Raymond Carringer

Recently advanced to general manager of manufacturing operations and elected a director of Standard Oil Co. of New Jersey. **(See p. R249)**

REFINING TECHNOLOGY EDITION

Do your pumps say "COME IN"?

MOST any motorist will tell you that there are only two kinds of pumps: modern pumps that say, "come in"—and old-fashioned relics that shout, "stay out"! That's why stations with modern computing pumps get business, while their neighbors with old-timers so often suffer. But that's not all. New Tokheim pumps pay extra dividends from the start—definite savings in service and maintenance costs, plus unfailing accuracy and dependability under all operating conditions. Replace your outmoded pumps with modern Tokheims. Their extra value costs no more.

Illustrated, Model 39 Computer. Also available in Clock Dial and Stationliter types — with or without Hose Reel feature.

QUALITY TOKHEIM COSTS LESS TO MAINTAIN

"TAKE THE WORD OF MEN WHO KNOW"

TOKHEIM OIL TANK & PUMP CO.

DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT FOR 39 YEARS

FORT WAYNE INDIANA

NATIONAL PETROLEUM NEWS

July 10, 1940

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COMING MEETINGS...

JULY

North Carolina Independent Oil Jobbers Assn., Summer Meeting, Wrightsville Beach, Fri.-Sun., July 12-14.

AUGUST

SAE West Coast Transportation & Maintenance Meeting, New Washington Hotel, Seattle, Fri.-Sat., Aug. 16-17.
National Assn. of Petroleum Retailers, Annual Convention, LaSalle Hotel, Chicago, Tues.-Thurs., Aug. 20-22.

SEPTEMBER

American Society of Mechanical Engineers, Spokane, Wash., Tues.-Thurs., Sept. 3-5.
American Chemical Society, Detroit, Mon.-Fri., Sept. 9-13.
Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham, N. Y., Tues., Sept. 17.
National Petroleum Assn., Hotel Traymore, Atlantic City, N. J., Wed.-Fri., Sept. 18-20.
SAE National Tractor Meeting, Schroeder Hotel, Milwaukee, Wis., Tues.-Wed., Sept. 24.25.

OCTOBER

National Lubricating Grease Institute, Annual Convention, Stevens Hotel, Chicago, Mon.-Tues., Sept. 30, Oct. 1.
North American Gasoline Tax Conference, Whitley Hotel, Montgomery, Ala., Thurs.-Sat., Oct. 3-5.
Western Petroleum Refiners Assn., Regional Meeting, Wichita, Kansas, Fri., Oct. 4.
American Gas Assn., Atlantic City, New Jersey, Mon.-Thurs., Oct. 7-10.
National Safety Congress & Exposition, Hotel Stevens, Chicago, Ill., Mon.-Fri., Oct. 7-11.
Indiana Independent Petroleum Assn., Fall Convention, Hotel Severin, Indianapolis, Wed.-Thurs., Oct. 9-10.
Automobile Manufacturers Assn., 1940 Autoshow, New York, Sat., Oct. 12.
SAE Annual Dinner, Hotel Commodore, New York, N. Y., Mon., Oct. 14.
Independent Petroleum Assn. of America, Annual Meeting, Dallas, Texas, Wed.-Fri., Oct. 16-18.
American Institute of Mining and Metallurgical Engineers, Petroleum Division, Los Angeles, Oct. 17-18.
Western Petroleum Refiners Assn., Regional Meeting, Shreveport, La., Fri., Oct. 25.
Oil Trades Assn. of New York, Annual Banquet Waldorf-Astoria Hotel, New York, N. Y., Tues., Oct. 29.

NOVEMBER

California Natural Gasoline Assn., Los Angeles, Nov. 1.
SAE National Aircraft Production Meeting (and Engineering Display), Hotel Biltmore, Los Angeles, Calif., Thurs.-Sat., Oct. 31-Nov. 2.
Texas Mid-Continent Oil & Gas Assn., Fort Worth, Tex., Thurs.-Sat., Oct. 31-Nov. 2.
American Assn. of Petroleum Geologists, Los Angeles, Calif., Thurs.-Fri., Nov. 7-8.
American Petroleum Institute, 21st Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Fri., Nov. 11-15.
Arkansas Oil Dealers Assn., Little Rock, Nov. 14.
American Society for Testing Materials, Hotel Mayflower, Washington, D. C., Thurs, Nov. 14.

DECEMBER

Exposition of Chemical Industries, Grand Central Palace, New York, N. Y., Sun.-Fri., Dec. 1-6.
American Institute of Chemical Engineers, New Orleans, La., Mon.-Fri., Dec. 2-6.

JANUARY, 1941

SAE Annual Meeting, (and Engineering Display) Book-Cadillac Hotel, Detroit, Mich., Jan. 6-10.

THIS WEEK WITH NPN...

REPAIRS vs. LUBRICATION

There's nothing like pointing out to the motorist the high cost in dollars and cents of infrequent lubrication. And we've a strong hunch that the lubrication article, "Frequent Lubrication Needed, Say Bearing Manufacturers" (No. 2 article in NPN's "Lubricate Every 1000 Miles" campaign), appearing in this issue, will be a helpful sales tool. The article points out that lubrication is cheap compared to the cost of repairs which may be necessary if an adequate supply of good quality, clean oil is not provided at all times to the important bearing surfaces. An accompanying table may cause you to whistle with surprise in case you're not up on repair costs—it points out typical costs of repairing or replacing parts damaged by improper or insufficient lubrication on the average car. All in all, it's one of the most effective sales arguments you could use in giving motorists "reasons why" 1000 mile lubrication is necessary. And there's a number of photos of damaged bearings emphasizing the need of lubrication which you can use to good advantage. Reprints? Of course! You'll find prices given on Page 10, together with a coupon which makes it mighty easy for you to order this reprint No. 2, also reprint No. 1 in case you've overlooked ordering. And don't forget to have plenty of signs! We'll be watching for yours!

OPTIMISTIC VIEWS

Canny observers were quick to note the optimistic view of major oil companies for improvement in retail gasoline prices in the near future, as reflected by the new contracts made with the federal government. The optimistic view, observers hint, is shown by the prices at which the contracts have been made. They are generally higher than today's service station prices. Complete list of prices is carried in this issue.

NPN $4 A COPY

Delving around in our circulation files, we came across a record subscription order we'd like to pass on to you. Marketers in the U. S. pay only $3 a year (less than 6c a week for their copy of NPN) . . . but we've one subscriber who pays an average of $4 per issue! He's stationed "somewhere in Europe" and insists on getting his NPN while the news is "hot." So he gets NPN by Transatlantic air mail via the Clipper at costs averaging $4 per issue! And this, we kinda feel, is evidence of the value of the fresh news on the oil industry packed into NPN each week.

ADVERTISING PAGES REMOVED

SEE AMERICA — THIS YEAR — is the theme of Wayne's powerful national advertising campaign during the touring season. Four-color, full-page advertisements in the Saturday Evening Post are helping to increase automobile travel this summer—helping to build the business of all Petroleum Marketers, everywhere. It is reasonable to assume that *those who display Wayne Pumps on their islands* will reap the largest harvest.

Not only will Wayne Pumps attract more of this increased traffic to your stations — *they will help you handle the greatest rush at top speed* without worry or fear of error, without delays or disputes with customers.

Waynes' low cost operation and long life mean greater returns from your investment. They are backed by *the greatest nation-wide pump service organization* in the world.

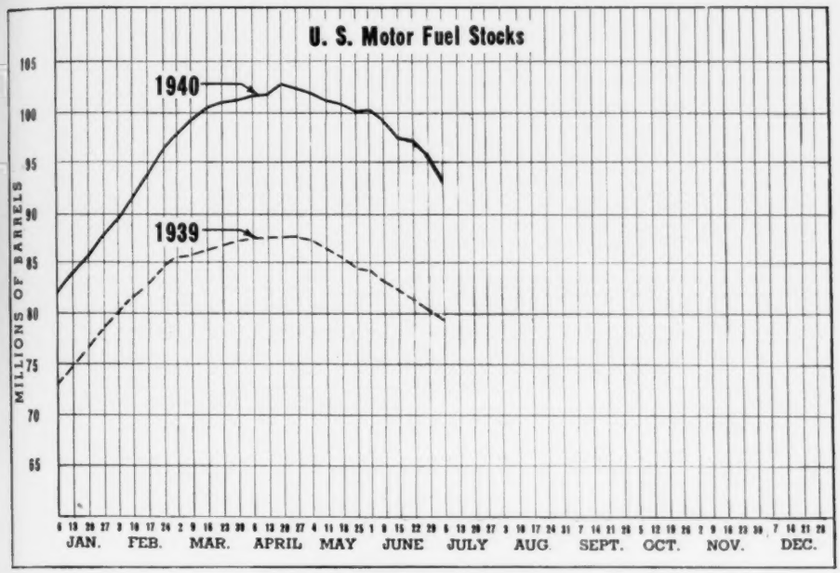
Wayne "Honest Measure"

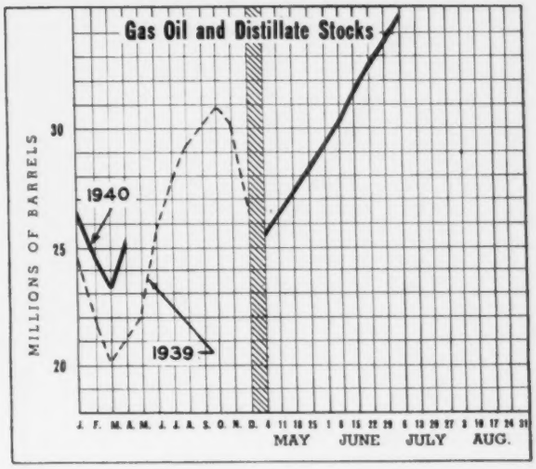
The public is being taught to look for this seal.

THE Wayne PUMP COMPANY « « « FORT WAYNE, INDIANA

World's Largest Manufacturer of Gasoline Pumps

LATEST OIL INDUSTRY
· STATISTICS ·





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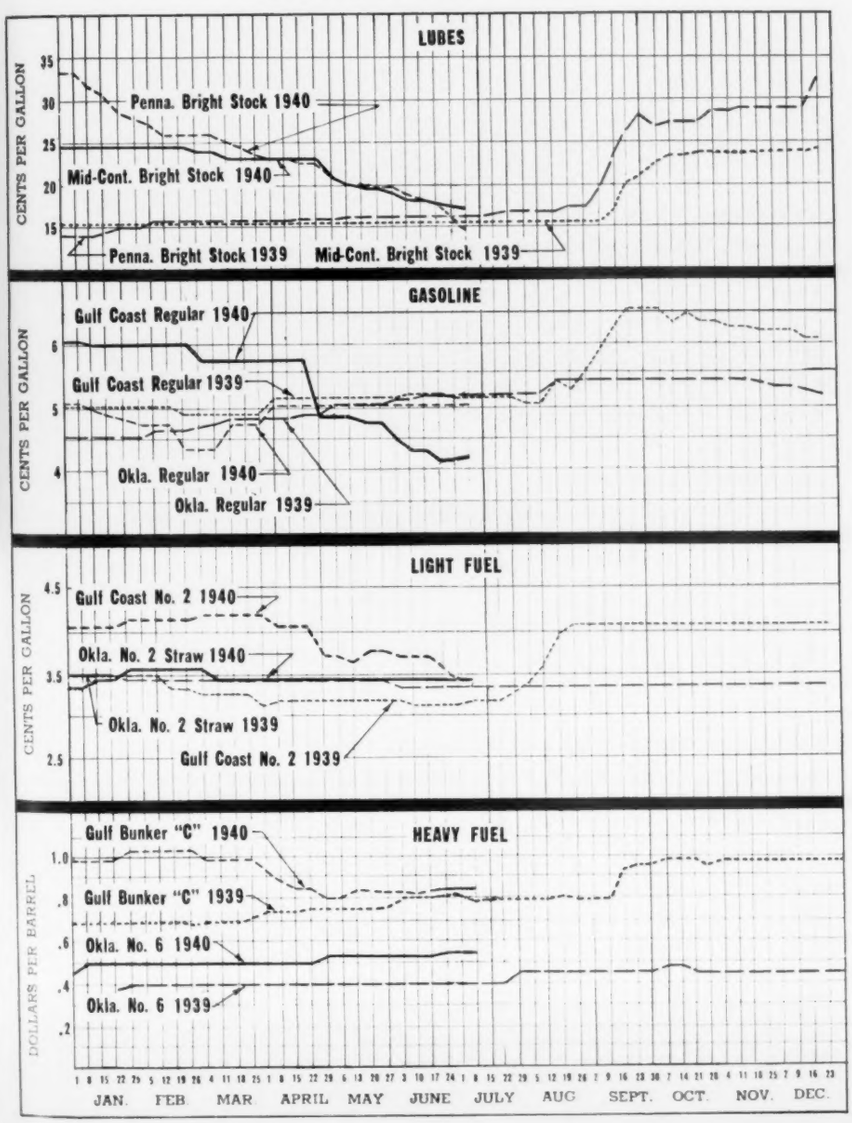
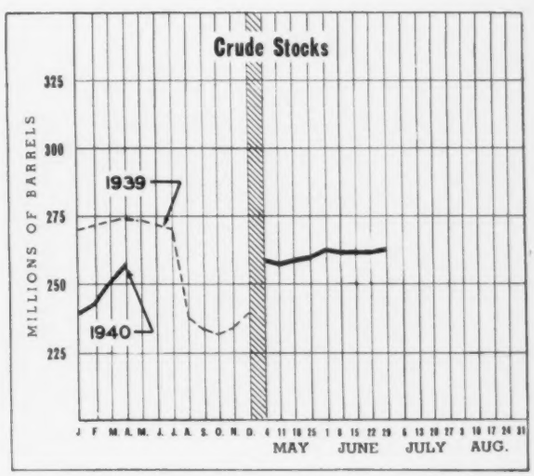
REFINERY TANK CAR PRICES





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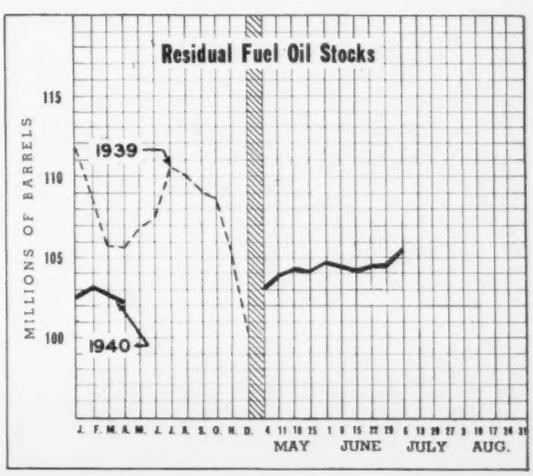


Ready Now! NPN's Reprint No. 2 to Help You "Sell" More Summer Lubrication!

In this issue, NPN carries the second article on summer lubrication, which will be republished as Reprint No. 2 in NPN's campaign, "For Safety's Sake—Lubricate Every 1000 Miles—This Summer." This reprint is now available for the use of your station salesmen in building convincing "reason why" sales arguments to use in selling lubrication to their customers. In addition, copies of Reprint No. 1 are still available. NPN urges all marketers to use both reprints—giving copies to each station salesman for his use in learning what to say to customers and prospects in order to convince them that 1000 Mile Lubrication is vitally important to the safety of their motor.

PRICES OF REPRINT NO. 1 AND NO. 2

Quantity	Reprint No. 1	Reprint No. 2
1 to 25 copies	8c each	7c each
26 to 50 copies	7c each	6c each
51 to 100 copies	6c each	5c each
101 to 500 copies	5c each	4c each

501 or more copies of either reprint—special prices on application. When ordering, be sure to designate the number of each reprint wanted. Remittance must accompany all orders for 500 copies or less. Ohio purchasers please add 3% State Sales tax

NPN's Window Sign Helps You Sell Everyone On The 1000 MILE Lubrication Change

These colorful signs tell and sell! They flash the important "For Safety's Sake—Lubricate Every 1000 Miles —This Summer" message to both motorist and your station salesmen. Signs are 12¼ by 19 inches in size, and are printed in two colors. NPN suggests that enough signs be ordered for displaying both outside and inside the station, plus enough reserve stock for replacement during the summer. Prices on signs are low—order your needs today so you can cash in on the Summer Lubrication Campaign.

PRICES OF DISPLAY SIGNS

1 to 25 signs	9c each
26 to 50 signs	8½c each
51 to 100 signs	8c each
101 to 500 signs	7½c each

501 or more signs—special prices on application. Remittance must accompany all orders for 500 signs or less. Ohio purchasers please add 3% state tax.

—USE THIS ORDER BLANK TODAY—

NATIONAL PETROLEUM NEWS, 1213 West Third Street, Cleveland, Ohio

☐ Attached is check covering the order below for NPN's Lubrication Campaign Material.

☐ Quote us on the following quantity of NPN's Lubrication Campaign Material.

_____ Window Signs (Quantity) _____ Reprint No. 1 (Quantity) _____ Reprint No. 2 (Quantity)

Company..... Individual.....

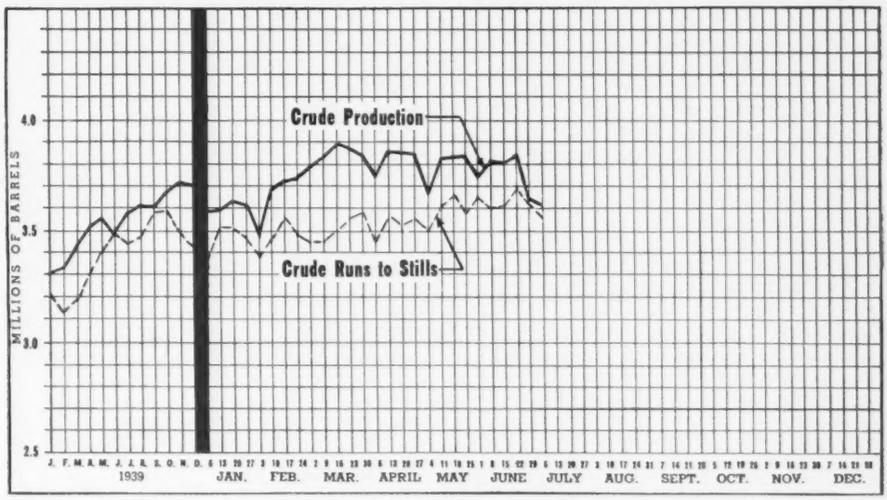
Street Address..... City, State.....

· STATISTICS ·

Crude Oil Production for the U. S.

(American Petroleum Institute figures)

	—Week Ended— July 6 Barrels	June 29 Barrels
Oklahoma	427,900	420,450
Kansas	182,450	183,100
Nebraska	200	150
Texas	1,138,350	1,180,500
Louisiana	287,450	287,750
Arkansas	71,300	72,350
Mississippi	8,500	9,650
Illinois	503,650	517,050
Indiana	13,750	13,250
Eastern (Ill. and Ind. excluded)	87,200	91,700
Michigan	55,900	56,400
Wyoming	71,250	79,300
Montana	19,400	19,850
Colorado	3,850	3,950
New Mexico	105,050	105,100
California	625,700	599,000
Total U. S.	3,602,400	3,639,550
Crude Imports	178,140	80,420
Total New Supply	3,780,540	3,719,970



Weekly Changes in Crude Oil Stocks*

(Thousands of barrels)

Grade or origin	June 22	June 29	Change from June 22
Pennsylvania Grade	4,453	4,452	— 1
Other Appalachian	1,218	1,317	+ 99
Lima-Michigan	1,512	1,493	— 19
Illinois-Indiana	20,638	21,373	+ 735
Arkansas	3,392	3,355	— 37
Kansas	7,494	7,596	+ 102
Louisiana:	12,259	12,356	+ 97
Northern	4,302	4,346	+ 44
Gulf Coast	7,957	8,010	+ 53
New Mexico	7,001	7,014	+ 13
Oklahoma	64,712	64,812	+ 100
Texas:	83,426	84,051	+ 625
East Texas	18,658	18,922	+ 264
West Texas	19,863	19,856	— 7
Gulf Coast	20,774	21,009	+ 235
Other Texas	24,131	24,264	+ 133
Rocky Mountain	16,193	15,916	— 277
California	35,368	35,044	— 324
Foreign	3,225	3,280	+ 55
Total U. S. refinable	260,891	262,059	+1,168
Heavy in California	13,093	13,315	+ 222

*As compiled by U. S. Bureau of Mines.

Mid-Continent Lube Statistics, May, 1940

(Reported by Western Pet. Refiners Ass'n., Covering Operations of 12 member reporting companies)

	Bright Stock	Viscous Neutrals	Paraffin Oils	Steam Refined Stock	Blended Oils
Production	151,986	176,454	45,695	74,377	181,186
Shipments:					
Domestic	102,753	164,069	42,500	61,893	174,722
Export	27,311	9,255	120	897	9,217
Total	130,064	173,324	42,620	62,790	183,939
Inventory, May 31, 1940	374,022	297,862	54,724	87,156	116,054
Inventory, Apr. 30, 1940	352,100*	294,732*	51,649*	75,569*	118,807*
Inventory, May 31, 1940	374,022	297,862	54,724	87,156	116,054

*Revised figures.

Lube Exports Up; Motor Fuel, Crude Drop

WASHINGTON, July 8.—Preliminary figures on foreign trade in May issued by Commerce Department today show increased exports of lubes, drastically reduced shipments of motor fuel and crude, and increased exports of paraffin wax. Figures for 5 months ended with May reflect a showing substantially similar to May results. Imports of crude recorded slight increases in May and 5 month period. Details follow:

	—MAY— 1939	1940	FIVE MONTHS 1939	1940
EXPORTS				
"Gas" and other motor fuel				
(1,000 bbl.)	3,874	1,546	15,016	8,419
($1,000)	9,632	6,008	37,059	28,361
Lubricating oil				
(1,000 bbl.)	973	1,157	4,122	5,630
($1,000)	6,709	9,318	29,303	51,870
Crude Petroleum				
(1,000 bbl.)	8,643	4,886	29,118	20,785
($1,000)	11,307	6,333	37,654	27,680
Paraffin wax ($1,000)	494	1,135	2,952	6,684
Gas and fuel oil				
(1,000 bbl.)	5,541	3,148	19,432	13,337
($1,000)	6,655	3,750	23,345	16,228
IMPORTS				
Crude Petroleum				
(1,000 bbl.)	4,186	4,266	12,311	14,692
($1,000)	2,820	3,074	8,332	10,713
Gas oil and fuel oil* ($1,000)	1,046	1,358	4,703	11,727

*Partly oil used for refueling vessels and for refining and export.

N.P.N. Gasoline Index

	Dealer T.W. Cents per Gal.	Tank Car Cents per Gal.
July 8	8.88	5.41
Month ago	8.92	5.41
Year ago	9.70	5.69

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of 9 wholesale markets for regular-grade gasoline.

Distillate Oil Burners

	May	April
New orders, less cancellations	38,122	30,552
Unfilled orders, end of month	21,718	14,630
Shipments:		
Total	31,034	23,007
United States	30,783	22,975
Canada	244	29
Foreign	7	3
Stocks, end of month	61,646	53,472

A. P. I. Weekly Refinery Report

(Figures in Thousands of Barrels of 42 Gallons Each)

Districts	Daily Average Crude to Stills Week Ended July 6	June 29	Per Cent of Reporting Capacity Operated Week Ended July 6	June 29	(a) Gasoline Production Week Ended July 6	June 29	Stocks Total Finished & Unfinished Motor Fuel (b) Week Ended July 6	June 29	Stocks of Gas Oil & Distillates At Refineries Week Ended July 6	June 9	At Terms. Trans. Pipelines Week Ended July 6	June 29	Stocks of Residual Fuel Oil At Refineries Week Ended July 6	June 29	At Terms. Trans. Pipelines Week Ended July 6	June 29
East Coast	532	561	82 7	87 2	1,382	1,492	22,286	23,042	5,022	4,867	5,499	5,534	4,542	4,198	5,112	4,644
Appalachian	111	123	78 2	86 6	407	401	3,451	3,600	235	232	116	101	480	515		
Ind., Ill., Ky.	612	615	91 3	91 8	2,523	2,438	15,825	15,960	3,572	3,353	488	401	3,254	3,122	112	113
Okla., Kans., Mo.	267	283	82 7	87 6	(c)969	(c)997	6,894	7,129	1,226	1,165	56	57	2,096	2,139		
Inland Texas	107	112	64 1	67 1	456	480	1,800	1,878	297	305			1,362	1,403		
Texas Gulf	837	823	91 6	90 0	2,443	2,424	14,465	14,154	4,349	4,002	728	613	5,387	5,446	279	303
La., Gulf	135	143	84 4	89 4	277	320	2,513	2,744	1,138	1,082	25	37	918	902	214	207
No. La., Ark.	48	38	92 3	73 1	125	100	532	544	255	246	16	15	487	477		
Rocky Mt.	46	42	69 7	63 6	201	189	1,340	1,377	133	134			604	605		
California	493	500	67 5	68 5	1,252	1,372	17,134	17,673	7,901	7,771	2,024	2,075	55,334	55,095	22,927	23,097
Total Reporting	3,188	3,240	82 4	83 8	10,035	10,213	86,240	88,102	24,128	23,157	8,952	8,833	74,464	73,902	28,644	28,364
U. S. Total (d)	3,575	3,625			11,469	11,672	93,275	95,142	25,078	24,067	9,652	9,523	76,494	75,917	28,849	28,569
U. S. Total 7-6-39 (d)	3,454				11,405		79,815		24,202		8,345		84,260		28,919	

(a) Includes straight-run, cracked and natural blended.
(b) Includes stocks at refineries, in bulk-terminals, pipe lines and in transit.
(c) 12% of reporting capacity in this district did not report gasoline production.
(d) Estimated, U. S. Bureau of Mines basis.

Phillip G. Wharton . . .

● Phillip G. Wharton, newly-elected president of National Office Management Assn., has hung up a record as oil man, air man and accountant.

On July 15, 1893, Mr. Wharton was born in Philadelphia, and just 18 years later landed his first job with Atlantic Refining Co. as clerk in the sales accounting department. In 1924, he became assistant general auditor and in 1935, general auditor and now supervises all auditing and research covering office organization and methods. He has held office as president of the Philadelphia chapter of N.O.M.A., and was first vice-president of the national association last year.

During the last World War, Mr. Wharton was in the air corps of the American Expeditionary Forces and saw overseas service. He is a graduate of the University of Pennsylvania.

NATIONAL PETROLEUM NEWS

VOLUME 32 WEDNESDAY, JULY 10, 1940 NUMBER 28

10 U. S. Tankers Laid Up by War

N. P. N. News Bureau

NEW YORK, July 9.—"Stagnate" was the word used by boat men today in describing the tanker market and rumor was prevalent that 10 American-flag tankers were laid up as result of the war's cut-off of many regular foreign channels.

Demand for coastwise tonnage was reported at a minimum. No open market fixtures were reported over the past week, with last paid rates remaining at 41c for gasoline and 25c for 30 gravity or lighter crude. Owners asking prices for gasoline were around 35c and light crude from 20 to 25c, according to reports. Approximately 12 "dirty" tankers are open at near-by positions, one boat man estimated. Not nearly as many "clean" boats are available, he added.

Opinion differed among boat men as to where rates would go within the next month, before demand for tonnage to haul heating oils makes itself felt in the market. Some expressed the view "the bottom is far from being reached," while others said they felt rates would not fall off to any great extent before influx of heating oil business.

Rate Trend Cited

Rates as a whole, so far this year, have been considerably above those for the same period last year. During January, for instance, rates of 65 and 66c for gasoline and 47 to 53c for light crude this year compare with rates of 20c and 17c to 23c, respectively, at present. This accounts for the fact that the 15c rates for gasoline and light crude during July last year have not been reached this year, although conditions are practically the same and possibly worse because foreign markets have been bottled up.

McLaughlin Named Head Of Wadhams,

N. P. N. News Bureau

CHICAGO, July 6.—J. M. McLaughlin has been appointed general manager of Wadhams Division of Socony-Vacuum Oil Co., Inc., according to announcement this week. He succeeds Aubrey G. Maguire who retired June 1.

Prior to his position as sales manager and vice-president of Bartles-Maguire Oil Co., which merged with Wadhams in 1929, he managed Thomas A. Edison plant at New London, Wis. For many years, Mr. McLaughlin has been identified with Wisconsin business and oil marketing, at one time being an officer of O'Neil Oil and Paint Co., Milwaukee.

In his work with Wadhams, he has been director and vice-president

California Standard Elects H. D. Collier

SAN FRANCISCO, July 9.—H. D. Collier, who joined the Standard Oil Co. of California in 1903 as a salesman, has been elected president of that company, filling the vacancy caused by the death June 26 of William H. Berg, president since K. R. Kingsbury died in 1937.

Mr. Collier is now in Japan on a business trip but is expected back the latter part of this month.

2-Ocean Navy Urged

N. P. N. News Bureau

WASHINGTON, July 8.—Naval expansion bill providing 4 billion dollars for authorization for construction of 200 additional warships to provide a navy in the Atlantic and Pacific oceans was favorably reported today by Senate Naval Affairs Committee. Virtually all of the vessels are expected to use oil as fuel.

House Votes to Put Teeth into Measure On Stream Pollution

N. P. N. News Bureau

WASHINGTON, July 9.—House of Representatives today called for stream pollution legislation with teeth in it, in effect, by voting 199-154 against instructing conferees on stream pollution bill, S-685 to recede from House amendment by Congressman Mundt which would require Federal stream pollution permits.

Conferees on bill have been deadlocked for many weeks over the drastic terms of Mundt amendment. Motion to instruct conferees to recede was made by Chairman Mansfield of Rivers and Harbors Committee. Senate version by Senator Barkley calls for a "study" of the problem.

'Stock Piles' of Fuel For Warplanes Urged

N. P. N. News Bureau

WASHINGTON, July 8.—"Prompt government action" aimed at accumulating "large stocks of 100-octane gasoline for national defense purposes" plus increased government storage for such supplies recommended to National Defense Advisory Commission today by Dr. Robert E. Wilson, principal oil adviser, envisions a minimum of 1,000,000 bbls. of such aviation fuel and a variable maximum, possibly between 10 to 20 million barrels.

Official amplification of Dr. Wilson's formal statement today further disclosed that such supplies probably will be purchased under competitive bidding and financed by the government out of appropriations now available to army and navy. It is possible, however, that some sort of a corporation after the model of those set up by Reconstruction Finance Corp. to purchase rubber and tin may be proposed. This would involve joint government-industry ownership of the buying corporation.

Gasoline of the octane rating (100) contemplated by the Wilson recommendation costs from 15 to 20c per gal., it was said.

Facilities Adequate

Existing large stocks of finished gasoline cannot be used to produce the 100-octane fuel called for by Dr. Wilson, official quarters pointed out to NATIONAL PETROLEUM NEWS today. Such gasoline will not be any good for producing 100 octane fuel, it was said, nor can it be made into it. Differences in the type of distillation and blending agents render it impossible for use in this connection, NDAC technicians pointed out.

Production facilities for turning out 100-octane fuel are sufficient to produce a substantial portion of the prospective requirements, according to these official quarters. Taken in combination with an appreciable increase in storage, the situation will be pretty well in hand, except in the case of a maximum sustained demand through involvement in prolonged active warfare.

Plants formerly engaged in production for export account now foreclosed by war developments, notably France, will not have to shut down now with the prospect of building up this new "stock pile" reserve. Fuel of this grade is being produced to a lesser extent also for England. Continued operation of these plants and storage of the fuel is favored by NDAC experts rather than even a temporary shutdown of such refineries. It will be cheaper, they assert, to produce and store such a commodity at this time.

As seen by Dr. Wilson, "Only in the case of the relatively new product, 100-octane gasoline, containing synthetic high octane blending stocks, does special attention now seem necessary." But even here, it appears that the needs can be met adequately by prompt government action directed at building up stocks, he added.

"Ordinary aviation gasoline of 92 or lower octane presents no problem," Dr. Wilson's formal statement pointed out.

So far as storing the supply of 100-octane aviation fuel goes, official quarters pointed out there are several alternatives with the determining consideration being as to which is the easiest. It boils down, apparently, to having the Army and Navy supply their own storage. It is possible to have the refiners store these stocks which would involve the purchase of the fuel at certain prices with the government paying storage for use of refiners' tanks.

Unleaded Storage Seen

Discussion of this angle raises the question as to how long the higher octane fuel can be stored without deterioration. NDAC experts are aware of this problem and probably will favor storing on an unleaded basis.

Purchases would be handled on the basis of the production

(Continued on page 15)

Cottrelle Made Head of Oil Under Canadian War-Time Act

Special to N.P.N.

OTTAWA, July 6.—George R. Cottrelle, Toronto, director of Canadian Bank of Commerce and prominent Canadian industrialist, has been appointed controller for Canadian oil industry for duration of the war.

Mr. Cottrelle's new office—his title is Petroleum Controller—was set up under authority of the Department of Munitions and Supply Act and the War Measures Act, a War-Time Industrial Control Board, under which entire industrial activity of country will be controlled.

George R. Cottrelle

The order in council setting up the War-Time Industrial Control Board states that the function of the Board is to mobilize, conserve, restrict, regulate and co-ordinate the economic and industrial facilities of Canada available in respect to munitions and supplies, for the efficient prosecution of the war. The various controllers, it is stated, are to act in respect to common problems along similar lines and in conjunction with the Foreign Exchange Control Board.

Mechin Is Assistant

F. C. Mechin, general manager of Imperial Oil Refineries, Ltd., Montreal has been appointed technical consultant to Mr. Cottrelle.

Mr. Cottrelle was born at Melton, Ontario, 1879, and was educated at the public schools and collegiate Institute of that town, and at the Ontario Agricultural College, Guelph, Ontario. He is popularly known as the "trouble shooter" of the Canadian Bank of Commerce, of which he is an official and a director. His specialty has been taking charge of tottering or broken-down concerns and building them up to a paying basis.

In addition to being a bank director, he is a director of Asbestos Corp. and Foster-Wheeler, Ltd., president of Sawyer-Massey, Ltd., Hamilton, Ont.; Chairman of the Executive Committee, Western Canada Flour Mills Co., Ltd.; and vice-president of Canadian Associated Aircraft Co., Ltd. He is also a director of Hamilton Bridge Co. and of St. Lawrence Corporation.

Mr. Cottrelle is fond of horses and is a frequent exhibitor at horse shows.

'Ever-Normal' Oil Tank Seen By Ickes in Americas' Cartel

N. P. N. News Bureau

WASHINGTON, July 8.—The ever-present interest of the Interior Department in the oil situation today burst forth upon another broad front—international, this time—when Secretary Ickes mentioned that his department "would be tremendously interested in oil" under the projected Western Hemisphere Trade Cartel, which the Roosevelt Administration is promoting to combat Nazi economic penetration in Latin America.

Secretary Ickes likened the role of his Department as to minerals to that which Agriculture Department will play as to agricultural commodities in the trade plan.

Like 'Ever-Normal' Granary

Admitting that the plan in general is "very inchoate" now, the Interior Secretary observed that the upshot of the thing may be the creation of "an ever-normal oil tank" facility to handle the oil phase. This would be patterned after the scheme sired by Secretary Wallace under which Agriculture Department farm program is operated on an "ever-normal granary" plan for controlled grain production-marketing.

As seen by Ickes, the whole matter turns on ability of American republics to take care of their oil output.

Trade Agreements Fade

In this connection, opinion was encountered, off-the-record in responsible official quarters that the Western Hemisphere trade plan means virtual scuttling of the moribund Reciprocal Trade Agreements program. Significant in this connection was action of State Department this week in substituting Division of Commercial Treaties and Agreements for its old Division of Trade Agreements.

Meanwhile, plans were progressing here for meeting of representatives of the North and South American republics at Havana, Cuba, July 20, to discuss the trade cartel idea in preliminary outline. Reports received here, however, indicate coolness toward the idea among the principal South American countries, notably Argentina, Brazil, Chile and Uruguay.

Government Is Not Disposed To Ban Any Oil Exports Now

N. P. N. News Bureau

WASHINGTON, July 8.—There is no apparent disposition now to curtail the exportation of aviation gasoline or any petroleum product under the export control machinery set up under HR 9850, providing legal authority for the control of exports of munitions, materials, and machinery essential to our national defense.

The only item on the list requiring State Department license clearance which bears upon petroleum industry is toluol, basic ingredient for making TNT, which can be produced from petroleum products.

Present intention appears to be to confine the list, for the present at least, to the basic materials, chemicals, products and machine tools included in the original listing.

Inquiry at the Division of Controls, State Department, today elicited the information that any additions to this list will be announced later and that the present listing represents items now regarded as subject to control for defense reasons. The list was prepared following consideration of many items for possible listing.

Aviation 'Gas' is Subject

Aviation gasoline is viewed as within category of commodities likely to come under any substantial extension of the present list. This follows from the known interest of the National Defense Advisory Commission in the aviation gasoline situation and fact that there has been some agitation earlier for banning aviation gasoline exports to Japan.

Administration of Section 6 of the Act under which this machinery was set up is regarded by the President as "essentially a military function," which accounts for his designation of Lt. Col. Russell L. Maxwell, U. S. Army, as Administrator of export control. The State Department through the Division of Controls provides the machinery for the actual issue of licenses under which any controlled items are released for export.

Control over lubricants, gasoline, and other fuels come within the law under language relating to supplies necessary for the operation of machinery.

Coal Prices Expected Soon

N. P. N. News Bureau

WASHINGTON, July 8.—Government price-fixing of minimum prices for soft coal at the mine are expected to be promulgated "sometime this month," Howard A. Gray, Director, Bituminous Coal Division, Interior Department, notified coal operators today.

"The minimum prices will be made effective at the earliest date possible after promulgation," Director Gray stated in carrying out his belief that coal industry should have as much advance notice as possible on the promulgation of these minimum prices even though he cannot as yet name the exact day they will be ready for promulgation.

2 Officers Resign From Consolidated

N. P. N. News Bureau

NEW YORK, July 6.—Resignations of two Consolidated Oil Corp. executives were announced here this week: Herbert R. Gallagher, president for past 8 years; and C. E. Crawley, vice-president and director.

Following the merger of Sinclair Consolidated Oil Corp., Prairie Oil & Gas Co., and Prairie Pipe Line Co., in 1932, Mr. Gallagher became president. Prior to 1932, he worked for 22 years with Shell Oil Co. of California, and became senior vice-president.

Mr. Crawley was president of Sinclair Oil & Gas Co., Tulsa, before working for Consolidated, and for many years was connected with Consolidated's producing and pipeline interests.

'Stock Piles' of Fuel For Warplanes Urged

(*Continued from page* 13)

as it is set up now which means that not the industry as a whole, but only a certain number of companies, are equipped to handle the production of this fuel. It was pointed out here that this is the case, because the Army and Navy are the only customers for this 100-octane fuel, that the civilian aviation lines use a lower-octane fuel.

The fuel will be used only in combat airplanes, bombers, pursuit ships, etc. with training planes using lower-octane fuels. The expansion involved in the immediate program, it was explained, would call only for production of synthetic aviation gasoline base stocks. The situation is not even regarded as a "bottleneck" as such, and is in the main, a matter of stepping up current operations plus storage stocks.

That substantially more storage will be required is conceded without hesitation.

Sufficient Transportation

As viewed by these experts the only industry "bottleneck," if it is one, involves a combination of transportation and storage. This, in turn depends upon the potentialities of demand as dictated by particular requirements in a particular place at a particular time. Generally speaking the combination of tanker, pipeline and railroad transportation, plus truck movements, is regarded as ample.

The storage equation arises as to both 100-octane aviation fuel and navy grade fuel oil in the latter case especially, the problem is one of locating substantial storage at points contiguous or within areas of possible future demand as determined by war operations.

NDAC experts anticipate no difficulty in meeting the Navy's demands for fuel oil, since it is simply a question of stepping up operations and, if need be, producing a fuel oil through a mere topping process applied to crude oil.

There is not the slightest "bottleneck" production wise so far as raw crude goes, the experts point out. This is simply a matter of turning open prorated valves a little wider to permit a greater flow.

As to toluene, the basis constituent for making TNT, it was pointed out here today that the oil industry's responsibility there is secondary. Whether the petroleum industry will be called upon to produce toluene depends on whether it is necessary to do so at all, i.e. whether cheaper forms of toluene production as by-products now are continued. This important chemical can be produced from petroleum if need be, since it is simply a matter of manufacturing aromatics, but it can be produced cheaper otherwise.

The oil industry's responsibility under the national defense of producing synthetic rubber from petroleum rests upon the contingency of whether or not supplies of natural rubber are cut off.

NDAC oil advisers here pointed out today that there is a widespread misconception throughout the oil industry as to the nature of their position in the set-up.

First, they say their position is somewhat "ticklish" because they are there merely in an advisory position. Secondly, they assert a desire to have industry appreciate that they are not out to "regulate" the oil industry for national defense involving the creation of an organization with offices throughout the country. As seen by Dr. Wilson in his formal statement issued today, his group is mainly concerned with technical problems on which individual rather than group assistance is required.

Their jobs, as seen by Dr. Wilson, for the present at least is to call in individual industry members to ascertain how they are equipped to fit into a situation involving a certain problem. Once these discussions have been had with individual companies already handling these phases incident to working out the various problems, the industry generally, so far as it is concerned, will be called in to discuss how to handle the proposition worked out by NDAC oil advisers and those companies previously engaged in such production. Thus, only a few companies produce 100-octane aviation gasoline, and Dr. Wilson and his assistant Dr. C. C. Monrad discussed this problem with them first before calling in the whole industry.

Text of Dr. Wilson's statement of today recommending the acculation of "large stocks of 100 octane gasoline" and outlining the situation generally affecting oil industry under national defense follows:

"So far as the petroleum industry generally is concerned," Dr. Wilson said, "its growth since the last war has been so tremendous that even satisfying the enormous demands of a mechanized army presents no serious problem.

"Only in the case of the relatively new product, 100 octane gasoline, containing synthetic high octane blending stocks, does special attention now seem necessary. But even here it appears that the needs can be met adequately by prompt government action directed at building up stocks of this important product and increasing its own storage with particular emphasis on the desirability of underground storage facilities in localities that might be vulnerable above ground.

"Ordinary aviation gasoline of 92 or lower octane presents no problem," Dr. Wilson said.

"Consideration is being given to the problem of meeting emergency demands which may come at uncertain locations for large supplies of petroleum products such as navy grade fuel oil." Dr. Wilson said that his petroleum section operates on the same basis as other sections of the Commission which must obtain and analyze in detail the needs of the Army and Navy for particular munitions or raw materials. These requirements are then compared with the productive capacities of the various

Oil Men on California Defense Group

R. E. Hines

Edwin W. Pauley

Charles S. Jones

N. P. N. News Bureau

LOS ANGELES, July 6.—When California's State Council of Defense held its initial meeting at Sacramento, June 24, Governor Culbert S. Olson named a temporary committee to consider and report upon a general plan to be followed in forming local councils throughout the state.

Aiding in this defense work are 3 prominent California oil executives: R. E. Hines, vice-president and general manager of The Caminol Co., Ltd.; Charles S. Jones, president of Richfield Oil Corp.; and Edwin W. Pauley, president of The Petrol Corp.

Agenda Suggested

Governor Olson suggested that subcommittees should be organized to deal with the following specific subjects:

Public defense and security; federal relations; industrial mobilization; public resources, transportation and public utilities; communications; local defense councils; public education; agricultural mobilization; labor; public health and sanitation; research and planning; law and legislation; revenue and finance; and business affairs of the council.

Major J. O. Donovan has been designated executive secretary of the state council of defense.

industries following which recommendations are made as to the best means for eliminating bottlenecks through purchase of reserve stocks, building new plants either with or without government aid and suggesting alternatives or modifications of specifications so that government requirements can be met promptly and at the most economical cost.

Dr. Wilson explained that the petroleum section is also studying the possibility of augmenting supplies of toluene and synthetic rubber by some of the newly developed processes which start with petroleum raw materials.

"Inasmuch as these studies are largely technical and confidential," he said," it is not possible to discuss in detail the progress which is being made, but it seems significant that instead of having any bottlenecks of its own, petroleum is now being called upon to help eliminate bottlenecks in other industries."

Dr. Wilson said that he had received many offers of cooperation from various organizations in the petroleum industry for which he was very grateful, adding, however, that at present his group is mainly concerned with technical problems on which individual rather than group assistance is required.

Five Jersey Tankers Sunk, War's Other Effects Told

N. P. N. News Bureau

NEW YORK, July 8.—Of the world fleet of 207 tankers owned by Standard Oil Co. (N. J.) and affiliates, five, so far, have been sunk in World War II, it was revealed in a report to stockholders on the war's effect on the company's business published in the current issue of "The Lamp", company house organ.

The article pointed out that properties of the Jersey company's affiliates in the nations at war are operated under direction of the respective governments. Thirty-six of the company's tankers fly flags of various nations and of this number, the status of only 6 was in doubt.

"No information has been received on 5 tankers under the German flag and one under the Norwegian," the report said.

On the whole, the report is optimistic, stating, "When the forces set in motion by the conflict in Europe are balanced out, it seems probable that the overall effect on Jersey's demand for products, earnings or prospects for the future will be much less than is generally supposed."

War's Effect on Demand

Increase in demand for aviation gasoline and lubricating oil, greater domestic consumption and heavier demand in "other parts of the world" so far this year, are the factors which the Jersey company states are helping to offset civilian rationing restrictions in both neutral and belligerent nations in Europe, blockades, and the invasion of France, Norway and the Low Countries.

The outlook, in the words of President W. S. Farish, follows:

"We feel that the oil industry is a vital part of the world today and that somewhere we will always be needed. We are rendering a necessary service and I have every confidence that when the final bell is rung on this war period, we will still be doing business."

Ground Broken For Refinery In Wisconsin

Special to N.P.N.

SHEBOYGAN, Wis., July 8.—When Mayor Herman C. Runge plunged his shovel into the earth for foundation of new refinery of Wisconsin Oil Refining Co., July 2, the first step had been taken to join Wisconsin with the 36 other oil refining states.

In 90 days, the crude oil "topping" unit is expected to be in operation, employing close to 45 men and processing 5000 bbls. of crude daily of which 60% annually will be produced as gasoline. Funds for this work are being raised by public subscription.

It is planned to use the remainder of the money thus raised to build a cracking plant, other necessary equipment in the nature of tanks, buildings, etc. and to provide working capital.

According to Dewey E. Foster, president of the Wisconsin Oil Refining Co., favorable arrangements have been made with Southern Illinois pipelines for transportation. A large proportion will be handled by railroad, he added. Mr. Foster pointed out that Sheboygan is the ideal location for such a plant being within a 75-mile radius of the bulk of Wisconsin's wealth and population.

Charlie Smith Leaves National To Go with Socony at Detroit

N. P. N. News Bureau

CLEVELAND, July 8. — Charles S. Smith, Cleveland, National Refining Co.'s vice-president in charge of sales, has resigned to take up new duties in Detroit where he will be general sales manager of the White Star-Ohio Division of Socony-Vacuum Oil Co. Mr. Smith will work under Howard A. Coffin, general division manager of the White Star-Ohio branch of Socony-Vacuum.

Mr. Smith started his long career in the oil business as a clerk for National Refining. When asked in what department he started, the veteran replied: "Well, there weren't many departments in those days." But sales was one of them. And in 1908, Mr. Smith became a salesman.

In 1911, he was branch manager of National's Columbus office. From 1915 to 1928, he was Cleveland manager of the Ohio division, in addition to his duties as secretary which he assumed in 1920.

By 1928, when Mr. Smith became vice-president in charge of sales, he was experienced in all sales branches of the oil industry.

Ryan Issues Statement

Paul Ryan, president of National Refining Co., said:

"It is with sincere regret that we announce the resignation of Mr. Charles S. Smith as vice president in charge of sales of the National Refining Company, to become general sales manager of the White Star-Ohio division of the Socony-Vacuum Oil Company, Inc.

"Charlie Smith has been with our Company for 35 years. He has earned the loyalty and affection of those of us associated with him in the Company, and the respect and high regard of those outside the Company in the industry. He has proved himself a tower of strength to this Company, and his calm, quiet humanness has always benefited the Company's affairs.

"Mr. Coffin of White Star asked Charlie to join his organization to be the first general sales manager of this operation of Socony-Vacuum; this new position offers him a broader scope for his manifold abilities. It is only because of this increased opportunity that we reluctantly agree not to try to dissuade Charlie Smith from entering on this new work.

"Mr. C. W. Manville, in his capacity as general sales manager of the National Refining Company, will be in complete charge of all the activities of the Marketing Department, as the successor to Mr. Smith. He recently came to our organization after 11 years with Shell Oil Company, Inc.

"To many of us in the oil industry, Charlie Smith has been the National Refining Company for a great number of years. Even those of us who regret his loss from the Company extend to him our heartfelt wishes for his success and happiness in his new field of endeavor."

Charles S. Smith

Fuller's Earth Production Off

N. P. N. News Bureau

WASHINGTON, July 8. — U. S. production of Fuller's earth, or natural bleaching clays, dropped again in 1939, according to Bureau of Mines.

Declining for last 9 years, production during past year was 167,070 short tons valued at $1,691,855 compared with 170,852 tons worth $1,707,869 in 1938 and a peak of 335,644 tons worth $4,326,705 in 1930, report stated. Until 1930, the output of fuller's earth increased almost directly with the rapid expansion in petroleum refining, occasional minor setbacks never lasting more than a single year but for 1939 the F.R.B. index of petroleum refining stood at 214 compared with 200 in 1938 and only 161 in 1930. Expressed as percentages of the 1930 figures, it would seem that the domestic output of fuller's earth had fallen 51% whereas what was once the leading barometer of demand for bleaching clay had risen 33%.

THE EDITOR'S PAGE

Readers Comments and Opinions will be much Appreciated by—WARREN C. PLATT, Editor and Publisher, Penton Building, Cleveland, O.

Census Shows Why City Stations are Losing

Early reports from the national census taken this spring are showing how the automobile—and cheap gasoline—are flattening out our cities by moving people further and further into the country.

These reports also show, therefore, what is "wrong" with gasoline prices and service station gallonage in these cities. The volume of business is actually decreasing per station not only because of the exodus of car owners to the suburbs, but because so many people refuse to see what is happening to city population and continue to build more city service stations, thus further diluting the gallonage per station.

Of the 10 largest cities first reported on by the Census Bureau, 4, Philadelphia, Cleveland, Pittsburgh and St. Louis, showed losses. These declines were slight, from 3,000 for Pittsburgh to 22,000 for Cleveland. But the gains of the other 6 were likewise small. New York's was the biggest with 6%, while Chicago's was but .2 of 1%, and Detroit, Baltimore, Milwaukee and Minneapolis showed but nominal gains.

These city losses and the small gains of other cities do not mean that as living centers they have decreased in population or in importance. Cleveland, for illustration, which showed a loss of 2.4% or 22,044 people is the center of a widening area that gained all told for the county more than 15,000. And there are growing suburbs just over the county line in all directions that count as part of greater Cleveland.

This also is the picture of the other cities. They are spreading out and doing so largely by flattening out and abandoning their older and less desirable residential neighborhoods, generally in favor of industrial development. It probably can be expected that in the course of time and if war conditions permit, there will be a certain rebuilding, even of 5 to 10 story buildings in old downtown areas, for living purposes as these can be air conditioned and kept sealed tight against outside noise and dirt. The extent to which this development can occur, however, will be controlled by the extent to which business, with offices and factories, may stay or return to downtown city sections, and how cheaply such residential buildings can be erected to house the average "white collar" worker.

But against any possible re-building of the older city sections, is the pull of the country for both business and residential purposes. Land is cheaper, so cheap that high buildings are uneconomic. Factories can spread out inexpensively and their workers can circle around on acre tracts even on farms and still be within only a few minutes of easy driving of their work.

Perhaps the cities will never come back? Maybe even New York will begin to thin out and flatten down?

All of this can be said to be due to the coming of cheap transportation by the automobile. In the days when people had to walk and drive horses they had to bunch close together if they wished to have any interchange of business or social contacts worth while in a day. The street cars and interurban lines spread the cities out a little but they could not provide the intimate immediate transportation between individuals, so we continued to live as close together as possible.

Now the automobile and its accompanying good roads, with the higher earning and living standard the auto industry has brought, makes it even easier to do business between commercial units scattered in the country than when all bunched together down in a city.

War Will Not Halt Flattening out of Cities

Nor will the war change this drift to the country, for to concentrate the population in order to conserve gasoline would be a tremendous drain on supplies for the construction of the other necessary means of transportation and for the new homes that would have to be built next door to new munition factories.

The oil industry was just beginning to grow at the start of the last war. In 1914 when Germany invaded Belgium, the United States held a shade more than 1,500,000 passenger cars and 85,000 trucks. Today we have more than 25,000,000 cars and 5,000,000 trucks to say nothing of all the other types of customers who use petroleum. Consequently 25 years ago the oil industry was just beginning to develop the country's petroleum reserves. In fact there were many prophets then who limited our possible oil supply to even less than 10 years, and that was allowing for considerable speculation as to what our reserves were. Today, by definite engineering measurement, the industry has drilled reserves for more than 20 years at the present rate of consumption and in addition there is a vast realm for speculative reserves such as were counted in the figures of 25 years ago.

In addition to a 40% and 50% increase in normal domestic demand 25 years ago the oil industry was suddenly confronted with the big war demand. There were six weeks in the fall of 1918 when it was felt desirable to conserve gasoline for the big American push by asking car owners not to operate on Sundays. These were the "gasolineless Sundays" and they were the only restriction the government placed on the consumption of gasoline. These six Sundays quickly built up a big supply so that the restriction was lifted a month before peace was declared.

These were the days when automobiles were relatively expensive and you did not see them parked by the thousands around factories. Workers walked or rode street cars to their jobs to make war munitions. Today this country could make relatively few munitions if the workers had to return to the inadequate transportation, or the lack of transportation, of 25 years ago.

There is nothing in the picture of the oil industry's raw material reserves or its immense and most flexible refinery capacity, to suggest any need for "gasolineless" days almost no matter what the war demands for petroleum products. In fact, war is more likely to increase the spread of cities as more of the much needed and far larger munitions plants of mechanized warfare are built, out where they only can be erected and that is in the country. That will make it all the more necessary for the oil industry to use its great resources to keep the American automobile moving.

It would seem safe to assume, therefore, that the war demands, no matter what they may be, will not, at least for years, materially restrict the flattening out of cities and the spreading out of the population over the country.

Modern Suburban Stations will Set the Pace

The prospect of fewer cars per square mile which may mean fewer cars per service station or else more distance between stations, presents problems for the service station owner.

The station man in the city cannot expect to increase his volume unless he is situated on or AT THE END of a much traveled automobile highway so he can get patronage from those living out of town, or while they may park their cars down town. The city station man is going to be more directly in competition than ever before with the probably better known neighborhood station.

The city station's gallonage may go down quite rapidly in many areas where the residential property gets on the social toboggan and skids from "good" to "poor", to "boarding house," good, then bad and then on to house a foreign district, then a colored district. Finally the buildings are torn down by the city health authorities as no longer fit for human habitation.

As the standard of the inhabitants of an area thus decline the number of cars per hundred of people or per square mile of district also decreases. This means that service stations, whose cost was once fully justified, become "lemons" of the sourest kind. Their very existence as "lemons" affects their gasoline and oil prices because effort is made to keep the stations going by leasing them out, cutting expenses, giving premiums and cutting price until they have conclusively proved they no longer can be operated

even to pay what may be a high lease rental.

As business buildings and old homes are torn down parking lots are opened and that means a gasoline pump or two that can be operated at comparatively no expense. These pumps divide the already declining gallonage, and their owners are ready to follow price cutters down because of their insignificant gasoline expense.

Into this city area of declining gasoline business the past 10 years have come a great many new station owners, particularly selling on a price basis. They frequently have confused concentrated auto traffic on main thoroughfares with available gasoline business. Their price-signs to stop some of this traffic have grown bigger and bigger.

With all of these adverse factors, there is no wonder that gasoline prices in the cities have shown steady declines for many years. Where is there reason for any hope of advances in the near future?

While this thinning out of gallonage per station has been going on in the cities, the newcomers to the country, who practically all have cars, nevertheless do not present a prospect of many large stations of big gallonage that is 40,000 or 50,000 gals. to 100,000 gals. per month. These newcomers do not settle closely enough together to create the possibilities for such sized stations, providing there is a satisfactory station nearer-by as undoubtedly will generally be the case.

The smaller stations in the suburban districts will be handicapped by having to compete with the low priced city stations at the city end of their customers' daily drive. Low prices, service considered, will tend to spread from the city price wars to a much wider area than has been the case in the past 10 years. That means that narrow margins, somewhat on a city scale, will obtain in the country.

Suburban growth is building up smart and important store areas in which larger service stations now operate. How much of the gasoline and lubrication business of those who trade in these store areas will go to the service stations located there?

From these speculations the reader can see the great importance to him of the information that is being brought by this year's census. The statistics show clearly the vast change that is taking place in our way of living, a change that spells death to thousands of present stations and life to many thousands of new ones. It is a change that means the taking of the highly efficient and modernly equipped station, that is well run, out to the country where it will be in sharp contrast and competition, with so many thousands of stations that represent the industry's ideas of the past, rather than of the present or future.

The oil industry is entering another one of those eras that mark oil and all other American businesses, an era of greater development and application of an already vast and highly efficient means of distribution.

New York Auto Dealers Hit Tax Diversion

N. P. N. News Bureau

NEW YORK—From the $124,000,000 which will be collected by the state of New York in current fiscal year, $72,000,000 will be gasoline tax, and more than half of the gasoline tax collected will be diverted for purposes other than highway construction and improvement. Total amount which will be diverted is $74,000,000.

This was revealed by E. D. Clay, secretary of Petroleum Industries Committee, at the annual meeting of Empire State Automobile Merchants' Assn., held June 24, 25 at Syracuse.

At this meeting, C. C. Bateman, Dansville, was elected association president, succeeding T. Southworth, Brooklyn.

One of this meeting's features was a large "Diversion Map," with different-colored lights showing states having constitutional amendments against diversion, and states which have reduced diversion. Other states were lighted "a dirty gray."

All ARE NEEDED!
PERPETUAL CUSTOMER FOLLOW-UP
GAS-TAX
N.Y. PETROLEUM INDUSTRIES COMMITTEE
DIVERSION: When Highway Funds Are Not Spent For Highways

C. C. Bateman, Dansville, N. Y., is shown at right, being congratulated upon his election to presidency of Empire State Automobile Merchants Assn., by T. Southworth, Brooklyn, retiring president. Meeting was held at Syracuse. Picture shows tax exhibits of New York Petroleum Industries Committee

Pump Sales Advance

N. P. N. News Bureau

WASHINGTON — Gasoline pumps valued at $2,654,986 were shipped by 32 American manufacturers in May, Census Bureau reports, compared with shipments worth $2,489,777 in May 1939. The five-month figure this year, $9,253,649, compares with $8,816,540 during same period of 1939.

Oil and grease equipment, and other measuring and dispensing pumps valued at $298,420, were shipped in May against $266,862 in May 1939. So far this year, manufacturers have shipped $1,280,312 worth of such pumps compared with $1,203,646 in Jan.-May 1939.

Burner Shipments Up

N. P. N. News Bureau

WASHINGTON, July 8. — Shipments of distillate oil burners amounted to 31,034 in May as compared with 23,136 May 1939 and 13,695 for May 1938, Census Bureau reports. Five month totals reflect a sharp rise of distillate burner shipments—107,275 shipped during Jan.-May 1940 against 78,604 in same period 1939 and but 46,054 in 1938. Statistics include data for 70 manufacturers for 1940 and 76 for 1939 and 1938. Although report does not give data for entire industry, coverage is "believed to be sufficiently representative to show the trend," Census Bureau states. Type of burners included in statistics are used in ranges, stoves, water heaters.

OIL TAX NEWS

Excess Profit Tax Measure Will Be Sent Congress Soon

N. P. N. News Bureau

WASHINGTON, July 8.—A dual tax and multi-billion dollar 2d supplemental defense purchasing program is being shaped up for early submission to Congress.

President Roosevelt is withholding transmission of his supplemental defense message to Congress pending receipt of estimates from War and Navy Departments.

Policy on prospective "steeply graduated" excess profits taxes was discussed at White House today in conference between the President, Secretary Morgenthau and Treasury tax experts.

Today's conference was the first of a series with the Treasury. Discussions will begin with congressional fiscal committee heads as soon as Treasury proposals have been reduced to concrete form.

The second supplemental defense program is expected to consist to a substantial extent of authorizations so as to enable government to make long-range commitments with industry for manufacture and processing of needed material.

To Provide $350,000,000

The latest tax proposal, excess profits taxes, appears to be linked with a contemplated tax revenue of an additional one billion dollars. Excess profits taxes on corporations, it is thought, would provide a maximum of $350,000,000 with remaining $650,000,000 to be obtained from individuals and through miscellaneous sources.

Question is beginning to emerge here as to whether Congress will be content to make piecemeal adjustments in the tax structure or whether it will demand a general overhauling of the tax system to provide for the financing of the enlarged defense program. This proposition raises a further question as to the extent of the re-armament program. To date the best available opinion here simply describes it as a "multi-billion dollar program". Signs were also beginning to appear at the Capitol indicating growing opinion among members that defense program should be co-ordinated to the point of an all-inclusive plan rather than piecemeal projection.

Look For 'Price Hikes'

Launching of the phase of the program dealing with placement of miscellaneous orders among many industries will bring into play the National Defense Advisory Commission's scrutiny of price under SEC Commissioner Leon Henderson.

To date there had been no indication of any criticism on price although the Henderson organization has demonstrated a sharp lookout for signs of any price hikes. This situation is also receiving close scrutiny from the TNEC (Monopoly) Committee. Both the TNEC and the Henderson NDAC price-checkers manifested interest some time ago in the tanker rate situation previous to the recent melting of these rates.

Corporation Taxes Hiked By New Law

N. P. N. News Bureau

WASHINGTON, July 8.—Corporations will pay substantially increased taxes on their income under the increased rates of taxation applicable in the new defense tax law approved by President Roosevelt on June 25.

The new law hiked these taxes sharply in each bracket.

CORPORATION TAX RATES

Normal tax net incomes	Old Law (%)	New Law (%)
Not in excess of $5,000	12½	13½
In excess of $5,000 and not in excess of $20,000	14	15
In excess of $20,000 and not in excess of $25,000	16	17
In excess of $25,000	18	19

Application of increased rates to the various income brackets will result as follows:

Net Income	Tax Under Old Law	Tax Under New Law
$5,000	$ 625	$ 742.50
10,000	1,325	1,567.50
12,000	1,605	1,897.50
15,000	2,025	2,392.50
18,000	2,445	2,887.50
20,000	2,725	3,217.50
22,000	3,045	3,591.50
25,000	3,525	4,152.50

Florida Tax Receipts Up 10%

TALLAHASSEE, Fla.—May gasoline tax yield under Florida's 7-cents per gal. levy was $2,122,908, Comptroller's Office reports, more than 10% above $1,924,473, collected May 1939.

Refiners Exempted From Registration Under Alcohol Law

N. P. N. News Bureau

WASHINGTON, July 8.—Petroleum refiners are no longer under the necessity of having to register their distilling apparatus with Alcohol Tax Unit of the Treasury Department.

Agreeing with Rep. Disney of Okla., the House, Senate and the President approved a bill (HR 6207) adding language to Section 2810 (a), Internal Revenue Code, specifically excluding petroleum stills and distilling apparatus from the still registration requirement. The President's approval was given July 2.

Interest Excluded In Depletion Rule

N. P. N. News Bureau

WASHINGTON, July 8.—U. S. Board of Tax Appeals today ruled against St. Mary's Oil & Gas Co., St. Marys, W. Va., in holding that "interest paid on money borrowed on the general credit of petitioner, and used to purchase part of the property from which oil and gas was produced, must be deducted from gross income in arriving at the net income from the property for the purpose of computing percentage depletion."

Question arose in a proceeding for the redetermination of a deficiency of $1,039 in income tax for the calendar year 1935.

North Dakota Will Prohibit Tax Diversion

N. P. N. News Bureau

NEW YORK, July 8. — Constitutional amendment to prohibit diversion of highway funds was passed by the people of North Dakota June 25, joining that state with the 7 others, California, Colorado, Kansas, Michigan, Minnesota, Missouri and New Hampshire which have taken steps to keep highway funds within the highway departments.

Idaho, Nevada and South Dakota will vote on anti-diversion amendments in the general elections in November. Two states, Iowa and Wisconsin, have amendments against diversion which have been approved by the 1939 legislatures, but these must be approved again by the 1941 legislatures before submission to the voters.

Protest against diversion of gasoline taxes and other highway revenues is continually increasing, according to National Highway Users Conference. In North Carolina, a vigorous campaign for anti-diversion amendment is being conducted. Wisconsin Committee Boards Assn. has adopted a resolution favoring legislation to prohibit diversion.

Similar action has started in Tennessee, where it is reported that diversion of highway revenues increased 26.9% during 1939. Automotive taxes paid by Tennessee's motorists which are used for purposes entirely unrelated to highways now total over $4,000,000 annually.

Georgia Tax Collections Up

ATLANTA, Ga.—June gasoline tax collections under Georgia's 6-cents per gal. levy totaled $1,920,755, officials report, bringing six-months total to $10,763,342, more than 5% above the $10,195,638 yield in Jan.-June 1939.

Texas Extends Order For Field Shutdowns

TULSA, July 9.—Texas' oil wells will be closed a total of 14 days in July and August by Texas Railroad Commission to "curb waste of oil."

The order calling for 7 productionless days the next two months is a supplement to commission's previous 3-month order calling for only 5 shutdown days each month. Overall production in Texas is expected to be cut approximately 80,000 bbls. daily by the additional shutdowns.

At the same time the commission ordered an extension to Sept. 1 of its temporary proration order for the East Texas field. This order had set a 20-bbl. per well daily minimum production in East Texas, with per-well allowables based on 2.32% of hourly potential production. The order calling for 7 shutdown days each in July and August applies also to East Texas.

Exports Back Up

Curtailed production of Texas crudes via the shutdown method is an effort by the commission to "curb waste," according to Commissioner Sadler. This statement was construed in some circles as further recognition by the commission that collapse of certain export markets for Texas crude had definitely left producers with an overabundance of oil. But market observers and crude purchasers report that scattered spots along the Gulf coast are the only visible signs of weakening crude prices resulting from this loss of export market. They say there are at least two or three 80,000-bbl. cargoes of Gulf coastal crudes offered below the cost of oil at well plus transportation to the Gulf. The extra two-day shutdowns should clear up this Gulf coastal surplus, it was believed.

Tension in East Texas, where new proration and shutdown regulations had caused increased production, was expected to be relieved by the increase in productionless days.

Other States Top Estimates

As a result of revised allowable orders, Texas' statewide production is expected to be pinched in currently to 1,300,000 bbls. daily. This figures 39,400 bbls. below the Bureau of Mines' July demand forecast and is in line with Texas commission's efforts to keep production within demand estimates.

While Texas was revising its 3-months production orders, other Mid-Continent producing states announced production orders generally in excess of the Bureau of Mines demand forecast.

Oklahoma allowable production in July, regulated by a 3-month proration order based on the Bureau's May demand forecast, will be 4200 bbls. daily above the July demand forecast.

Kansas Allowable at 159,400

Kansas' basic production allowable for July has been set at 159,400 bbls. daily, same as the Bureau's estimate. But an additional allowable of 15,000 bbls. daily for "underage" production and 4000 bbls. daily allocated new wells will bring total output to 19,000 bbls. in excess of the demand figure.

Arkansas production has been set at 73,000 bbls. daily in July, 5600 bbls. above the Bureau's estimate, while Louisiana's current allowable at 280,371 bbls. daily is 2271 bbls. above estimated demand. New Mexico's July allowable order calling for 106,100 bbls. daily average production follows the Bureau's demand forecast.

Oklahoma States Hearing

As result of recent developments in the crude oil picture, proration hearings scheduled for July 19 at Baton Rouge, La. and July 26 at Oklahoma City take on added significance, according to observers. The Baton Rouge hearing is the first market demand hearing called by Louisiana Conservation Commission. The call that went out to producers and purchasers indicated a 60-day proration may be expected beginning Aug. 1.

Fate of long-range proration orders in Oklahoma is to be decided at the Oklahoma City hearings. Producers will decide at a meeting July 26 whether 30 or 90-day proration orders should be recommended to the Corporation Commission meeting the same afternoon. Other state regulatory bodies have not yet announced dates for their proration hearings.

Nebraska Crude is Similar to Michigan, According to Bureau of Mines Analysis

N. P. N. News Bureau

WASHINGTON, July 8.—Analysis by U. S. Bureau of Mines of oil from the second producing well in the state of Nebraska indicates gasoline content of approximately 10 per cent, Interior Department announced today.

Bureau's analysis showed the gasoline "is deficient in the easily volatile portions, and is highly paraffinic."

"The kerosine, gas oil, and non-viscous lubricating distillates which constitute 50% of the oil may be suitable for manufacture of burning oils, distillate fuel oils, and diesel-engine fuels," Bureau found.

"The sulfur content of the crude oil, 0.37%, is relatively high for crude oil of this type. The sample analyzed by the Bureau of Mines appears to be similar in physical and chemical properties to some of the crude oil being produced in Michigan."

In November 1939, crude oil was found in a well drilled in Township 1 North, Range 16 East, Richardson County, Neb. A second well about a half mile southeast of the discovery well began producing May 8, 1940. Both wells produce from the Hunton limestone (Devonian Age), the first well at a depth of 2,276-2,281 feet and the second at 2,217-2,230 feet.

The discovery of crude oil in the southeastern part of Nebraska has created much interest in the tri-state region where Nebraska, Kansas, and Missouri join, which is part of the Forest City Basin.

Michigan Land Bill Vetoed by President

N. P. N. News Bureau

WASHINGTON, July 8.—President Roosevelt on July 3 vetoed a bill which would have authorized Secretary of Interior to issue patents to public lands in Monroe County, Mich., said to be "prospectively valuable for oil and gas," upon payment of $1.25 per acre. President pointed out that government should not issue patents to such lands without reservation to it of the mineral deposits of the lands.

Veto message on the bill, HR 7736, reads:

"While the long continued occupancy of these lands entitles the claimants to equitable consideration, I do not think the United States should issue patents to the lands, except with a reservation to it of the oil and gas and other mineral deposits therein, together with the right to prospect for, mine and remove the same, under such rules and regulations as may be prescribed by the Secretary of the Interior."

Parkersburg Named In FTC Complaint

N. P. N. News Bureau

WASHINGTON, July 8.—Parkersburg Rig & Reel Co. was charged last week with violating the Clayton anti-trust law by Federal Trade Commission in a complaint alleging that the Parkersburg, W. Va. firm had brought about "a substantial lessening of competition" through its acquisition of two competing companies.

"Violation of Section 7 of the Clayton Act occurred," FTC alleged, when the respondent in 1939 "acquired the capital stock of its competitors," The Oil Country Specialties Manufacturing Co., and Atlas Engineering Works, Inc., both of Coffeyville, Kans. Effect of this acquisition, FTC alleges, is "a substantial lessening of competition between the acquired and the acquiring corporations, restraint of interstate commerce in oil and gas well machinery and equipment, and a tendency to create monopoly."

Complaint pointed out that at the time of the acquisition the Parkersburg corporation had total stated assets of more than $4,000,000 and the acquired companies in excess of $1,800,000.

Production or Refining Natural Output Rises

WASHINGTON, July 8.—Daily average production of natural gasoline in May was 6,215,000 gals. compared with 6,180,000 gals. in April and 5,799,000 gals. in May, 1939. Chief increases occurred in Rocky Mountain, Louisiana, Panhandle, and Osage districts.

Stocks increased also and total at end of month was 273,588,000 gals., 16,884,000 gals more than on hand May 1 and 12,684,000 gals. more than May 31, 1939 total.

D.C. Gasoline Tax Up

WASHINGTON — District of Columbia "gas" tax collections totaled $276,353 in May, according to official reports, more than 8% above May 1939 yield, $253,845. D.C. tax is 2-cents per gal.

WITH THE ASSOCIATIONS

N.A.P.R. Proposes Limit on Stations But City of Milwaukee Balks on Plan

MILWAUKEE, July 6.—Construction of a service station within 500 feet of another service station, would have been prohibited by a recent ordinance sponsored by Milwaukee Retail Gasoline Dealers' Assn. However, the proposal was rejected by the Milwaukee Public Land Commission.

In addition to prohibiting maintenance of a service station within 500 feet of another service station, the ordinance was worded to include the same distance requirements from hospitals, assembly halls, schools or public playgrounds, real estate owned or used by any religious corporation for religious purposes, any existing public garages, greasing stations or parking stations.

Text of proposed ordinance follows:

Proposed Ordinance

Section 1

No public garage, gasoline filling station, automobile greasing station, parking station or any other place of business at which motor fuel for use in internal combustion engines in motor vehicles will be sold, bartered or exchanged shall be erected or maintained within 500 feet of: a—any hospital; b—any assembly hall; c—any school or public playgrounds; d—any real estate owned or used by any religious corporation for religious purposes; e—any existing public garage, gasoline filling station, automobile greasing station or parking station.

Section 2

No public garage, gasoline filling station, automobile greasing station, parking station or any other place of business at which motor fuel for use in internal combustion engines in motor vehicles will be sold, bartered or exchanged shall be erected or maintained at any other place not restricted by Section 1 unless a petition has been signed in favor of such construction or maintenance by at least 75% of the property holders within a radius of 300 feet of the lot line, and further, no permit shall be granted for the erection or the maintenance of a public garage, gasoline filling station, automobile greasing station, parking station or any other place of business at which motor fuel for use in internal combustion engines in motor vehicles will be sold, bartered or exchanged until after a survey has been made by the Safety Commission, fire and police department, and an investigation made of all hazardous conditions connected therewith, as a fire hazard, congestion of traffic and in the interest of safety and public welfare.

Section 3

It is hereby declared that although prior to the enactment of this ordinance, expenses have been incurred or work has been done in making plans and specifications for or in the construction without a building permit or preparations for the construction of any such prohibited public garage, gasoline filling station, automobile greasing station, parking station or any other similar place of business, the construction or maintenance shall, nevertheless, be prohibited.

Section 4

This ordinance is enacted for the prevention of fire hazard, to prevent congestion of traffic and in the interests of safety and public welfare, and restrictions thereof are considered as being in addition to restrictions provided in existing ordinances.

Section 5

Provisions of this ordinance shall not affect any existing public garage, automobile filling station, etc.

Section 6

If any section, sub-section, sentence, clause or provision of this ordinance shall for any reason be held invalid or unconstitutional, the validity of the remaining parts hereof shall not be affected thereby.

Section 7

This ordinance shall take effect and be in force from and after its passage and publication.

Pittsburgh Dealers Hit Tax Absorbing

PITTSBURGH, Pa., July 8.—"Stop Giving Away Your Profits", is the title of a full-page message to Pennsylvania's retail gasoline dealers in the July 1 publication of "The Gasoline Dealer", organ of Allegheny County dealers' association.

This message states: "The increase in the price of gasoline is made necessary by the defense tax. As patriotic Americans we stand back of this move 100%. The tax burdens which the dealers have been absorbing for so many years has become so great, however, that the dealer must pass them on to the public.

"When you absorb these taxes your family suffers. The cigaret dealers are not absorbing any taxes. The liquor dealers pass them on to the public. The amusement enterprisers add them to the cost of their tickets. The gasoline dealer must add his taxes to his selling price if he expect to continue in business.

"The Iowa plan was adopted to eliminate the suppliers from price-setting. It was planned to enable the dealer to determine what margin he needed to operate profitably. At no time has the dealer taken advantage of this plan. Now is the time to act. Your association, in advising you on your margins, gives you the opportunity to establish a margin that will insure you a profit."

Judge to Address N.A.P.R.

N. P. N. News Bureau

CHICAGO, July 9. — Harry H. Porter, chief justice of Municipal Court, Evanston, Ill., has accepted an invitation to address delegates to the eighth annual convention of National Assn. of Petroleum Retailers at Chicago's LaSalle Hotel, Aug. 20-22, it was announced today. His topic will be "Service Stations: Soldiers of Safety".

Judge Porter is general chairman of Street and Highway Traffic Section of National Safety Council, president of Winter Safe-Driving League, and chairman of American Bar Assn's Committee on Traffic Court Procedure.

W. P. R. A. Group Meets July 12

By Teletype

SHREVEPORT, July 9.—A paper and open forum discussion on refractory and suspended walls will highlight the next monthly technical meeting of the Arkansas - Louisiana - Texas division of Western Petroleum Refiners Assn., at El Dorado, Ark. July 12.

History of "suspended walls" will be given by H. O. Johanson of Tulsa, M. H. Detrick Co. heat release on boilers and stills, and trend of modern cracking still design will also be embodied in the discussion by Mr. Johanson.

Meeting will begin at 4 P. M. at the Randolph Hotel, El Dorado.

Alabama Passes Bill For Posting Prices, Urged by Retailers

Special to N.P.N.

BIRMINGHAM, Ala., July 8.—The Alabama legislature has passed a bill making it illegal for any retail gasoline and oil dealer to sell his products at less than the posted price. Furthermore dealers are required to post plainly the price of products sold.

This measure had the unanimous support of the Independent Service Station Operators Association of Alabama of which George L. Gilliland of Birmingham is president.

It is aimed at some stations which allegedly have been granting rebates to favored customers.

Indiana Convention Date Set

INDIANAPOLIS—The 1941 Spring Convention and Trade Exhibit of Indiana Independent Petroleum Assn. will be held Tuesday, Wednesday and Thursday, March 11, 12 and 13, Hotel Severin, Indianapolis, Secretary George Hofmayer announces.

Kentucky Oilmen Plan September Golf Party

LOUISVILLE, July 6. — Kentucky oilmen will gather Sept. 5 at either the Ashland Golf Club or the Lexington Country Club, to determine who are the best golfers and who is the luckiest "blind bogey" player.

In addition to golf, a prize will be awarded, the winner to be decided by names drawn from a hat, states Herbert L. Clay, secretary of Kentucky Petroleum Marketers Assn.

FDR Signs Waiver Of Prospecting Fee

WASHINGTON, July 9.—The President on July 8 approved a bill, S-2915, providing for waiving of rentals on leases for exploration for oil and gas on non-proven lands for the second and third years of the three-year prospecting permit. Waiver of rental of 50c per acre does not apply if any oil or gas is discovered.

Motorists Ask Voice in Planning for Defense

Effect on Civilian Transportation, Loss of Mechanics, Servicing Cited

N. P. N. News Bureau

WASHINGTON, July 9.—American Automobile Association has requested that it be represented on consumer, price and transportation committees of the National Defense Advisory Commission.

Declaring that the A.A.A. has "a direct interest" in these 3 distinct activities to be undertaken by the NDAC, Russell Singer, general manager of the motorists' organization, suggested such representation in a memorandum to W. H. McReynolds, secretary of the defense commission. Memorandum was submitted, Singer said, at the direction of Thomas P. Henry, A.A.A. president "with the thought that the organization may be of aid to the U. S. Government in connection with the variety of activities" to be undertaken in the defense program.

Outlining the bearing of the defense on consumers, prices, and transportation so far as its interests are concerned, the A.A.A. manager wrote:

A.A.A. Gives Reasons

"We may expect that the defense program will bring impacts on our organization from a threefold standpoint:

"(a) The shift from a normal peace-time production program in our industries may well affect output of consumer goods, such as automobiles. A diminution of output of automobiles would put a premium on the used car, and call for more servicing. Even now there is clearly a shortage of automobile mechanics because of the demand for mechanics in the aircraft industries and the higher pay available in those industries.

"(b) A shift in production processes would manifestly tend to affect the whole price structure. In this connection, it is worth noting that, with a national income of $80,000,000,000, the expenditure incident to the operation of 30,000,000 motor vehicles would normally represent $5,000,000,000.

"(c) Transportation is a vital element in the defense program now contemplated and, as users of transportation, we have a very real interest in whatever adjustments may be forthcoming to meet developing conditions. Designation of special highways for military as against civilian use is entirely conceivable under some circumstances."

Mr. Singer, it is understood, had "a very satisfactory conference" with White House-NDAC Secretary McReynolds and a favorable response to the A.A.A. request is anticipated.

The consumer committee, which will police consumer's prices, is headed by Miss Harriet Elliott, dean of the woman's college at University of North Carolina. The price committee, which will keep prices of raw materials under surveillance, is headed by Leon Henderson, Securities and Exchange Commissioner. The transportation committee, which is charged with responsibility of insuring adequate transportation facilities under the defense program, is headed by Ralph Budd, president of the Chicago, Burlington & Quincy Railroad.

Affects Passenger Cars

Discussing their interest from the consumer standpoint the A.A.A. pointed out that "while the passenger automobile fulfills a vital function in the national economy, we now know that under the new defense program it is contemplated that a large part of the productive capacity of the producing industries, now supported by the automobile, namely, automobile factories, petroleum refineries, rubber and accessory plants, would be diverted to the manufacture of war materials.

"On the basis of an annual income of $80,000,000,000, it is estimated that normally the purchase of new automobiles and the operation of old ones would account for $5,500,000,000 of consumer expenditures. The thought has been advanced that $2,500,000,000 of this consumer expenditure on private automobile ownership could in an emergency be diverted to the production of war materials. Any such program would naturally call for serious adjustments in the use of motor vehicles and related products in the hands of the individual owner and operator."

Curb on Travel Would Hurt

Continuing, A.A.A. pointed out that travel in America today accounts for an annual expenditure of some $5,000,000,000.

"The travel dollar goes into every channel of trade. Thousands of communities are wholly dependent upon it. Manifestly, any curtailment of automobile operation would affect this consumer expenditure."

The association has a very direct interest in the consumer implications of the defense program, NDAC secretary was told. "Particularly," Mr. Singer wrote, "as to the impacts that adjustments in production in the automotive field may have upon transportation and also as regards any governmental regulations that may be found desirable, possible limitation as to use, and the effects on cost of operation."

Interested in Prices

Discussing their interest in prices, the A.A.A. manager stated this feature deserves consideration from three points:

(1) Diminution of private automobile manufacture,

(2) Larger outlays for maintenance of old cars which would have to be continued in use, and

(3) Taxation of automotive products, gasoline oil, automobiles, and tires.

They have insisted upon an open market for used cars notwithstanding dealer agitation for fixed prices. "We have insisted on an open market at all times and aside from the prices of gasoline, oil, tires, accessories, and so forth, we can forsee that a very controversial and difficult problem might center round the price of used cars."

More Old Cars in Use

Concerning retention of more old cars in use and consequent larger outlay for maintenance, A.A.A. pointed out their experience in finding that many of the 12,000 service garages they now have under contract "are now losing mechanics at a heavy rate because of the better wage opportunities offered in the aircraft industry. "We may well run into a situation where there will be a definite shortage of automobile mechanics which will tend to affect the cost of labor and the price of repairs."

Watch Tax Proposals

Discussing taxation of automotive products, memorandum stated: "We, as an organization, of course, recognize that no defense program can be made effective without the necessary financial measures. No one can say how far tax increases may go. But our desire to be helpful to the government and at the time give intelligent consideration to the effect of taxes on prices to consumers in our field, render it advisable that we be in close touch with developments."

Outlining their interest as to the transportation phase, the A. A. A. said "what effect the rearmament program may have on highway building, on highway maintenance. The possible establishment of military priority on highways, the establishment of routes for civilian use, the use of motor vehicle equipment—both commercial and passenger cars — in mobilization plans, rules and regulations that may be found necessary as regards the use of the automobile for business and private purposes, are all matters of vital concern to our association .... and to automobile owners generally."

Cotton Valley, La. To Get Big Plant For Recycling Gas

N. P. N. News Bureau

TULSA, July 9.—Bids on what is described as the "world's largest recycling plant", to be built in the Cotton Valley, La., field, will be let within the next week or two.

Plant will have capacity to process 150,000,000 cu. ft. of gas daily, with an estimated output of 10,000 bbls. of natural gasoline daily. The extraction and repressuring plant will cost between one and a half to two million dollars and will be a "community-type" project for some 22 operators in the Cotton Valley field.

Among those participating in plant's operation will be Ohio Oil Co.; H. L. Hunt, Dallas, Magnolia Petroleum Co.; Oilphant Oil Co.; North American Oil Co.; United Gas Co.; and Stanolind Oil & Gas Co.

Five to 6 months will be necessary in construction of the plant.

Compact Eyes Curb On Oil Production

OKLAHOMA CITY, July 9.—Elimination of overproduction of crude in the U. S. with the eventual paring down of crude and gasoline stock excesses are indicated topics to be discussed at the August meeting of the Interstate Oil Compact Commission, according to Oklahoma's representative W. J. Holloway.

OIL TRANSPORTATION

Refiners Eye ICC Hearing On 'Trainload'

N. P. N. News Bureau

WASHINGTON, July 8. — Center of attraction for oil industry interests next week will be scheduled oral arguments Thursday July 18 before full membership of Interstate Commerce Commission of the Petroleum Rail Shippers' Assn. Case involves tentative recommendations for trainload rates on gasoline and natural gasoline from refineries in the Southwest to pipeline terminals in Mid-Western marketing area.

Debate on this proposal will also be followed with keen interest by railroads all over the country since it affects a "blue chip" class of traffic.

Arguments will find railroads and 2 major oil companies, Shell and Standard Oil Co. of Indiana opposing the volume rate proposal on the one hand and supported by Southwestern refiners on the other.

Prospect of ICC approval of the proposed rates, which would be confined to minimums of 25 cars of 8000 gallons each, appears favorable notwithstanding "unusual" nature of Examiner C. E. Stiles' recommendation. Precedent for such rates was set earlier in ICC approval of barge-competitive quantity rates on black strap molasses from New Orleans to Peoria, Ill. Since then, ICC has sanctioned volume rates on soft coal from mines in Arkansas and Oklahoma to St. Louis, Mo.

Argument of case now may mean a decision before August recess of ICC, as ordinarily, no conferences are held for disposition of cases during August. Otherwise decision will go over until September conferences.

For details of Stiles report in the case, Docket 28106, see N.P.N., May 1, 1940, page 9.

Travel Bureau Bill Gains

WASHINGTON, July 8. — Legislation providing for creation of a travel bureau in Interior Department to promote travel within the U. S. is now in the conference stage of enactment with passage June 22, of Bill H.R. 6884 in Senate, and appointment July 3 of representatives Lea, Bulwinkle and Wolverton as House conferees on the Bill.

Shipping Conference May Include Tankers In Rate Discussions

N. P. N. News Bureau

WASHINGTON, July 8. — A development of possible importance to the general tanker rate situation was seen here today in prospective United States-Latin American conference of shipping executives and experts in Washington in the early future to discuss reduced ocean freight rates and mutual lowering of port, wharfage and pilotage charges.

Possible oil angle is anticipated upon basis of understanding that actual proposals for the conference were made by Cuban and Venezuelan representatives on the Financial and Economic Advisory Committee, a creation of the 1939 Panama conference. Reduction of rates or freezing of such charges at their present levels may come out of the prospective meeting. It was recalled in this connection that President Roosevelt recently announced Maritime Commission had effected substantially reduced ocean freight rates on U. S. and Canadian newsprint moving to Argentina via U. S. ports since Norwegian newsprint supply was cut off.

Vandale Pipe Line Purchased By Sohio

N. P. N. News Bureau

CLEVELAND, July 9. — The Sohio (Standard Oil Co. of Ohio) Corp. has purchased Vandale Pipe Line Corp., company officials stated today.

Vandale has pipelines in the Bloomingdale area in Van Buren county, it was stated.

Battle Looms Over New Law For Pipeline

N. P. N. News Bureau

WASHINGTON, July 8. — A "battle royal" between railroad management and labor on the one hand and Southeastern Pipe Line Co. on the other, is in prospect before the Georgia legislature, if, as and when the pipeline company asks for a new law granting power to condemn a right-of-way through Georgia for its pipeline.

Spokesmen for rail labor and railroad management here indicated today their intention of opposing such a proposal, which is necessary to permit construction of Southeastern's new gasoline pipeline from Port St. Joe, Fla., to Knoxville, Tenn.

Railroad interests will oppose such legislation on the claim that rail carriers are amply able to handle the gasoline traffic.

Another combat sector was opened in Southeastern's march through Georgia here upon contention by Railroad Labor Executives Ass'n. that Southeastern laid its pipeline across about one mile of the Chattahoochee National Forest without permission from the government.

Protest against proposed arrangement to cover this right of way was lodged with Forest Service here.

A hearing in the matter was postponed pending handing down of the decision rendered June 21 by Georgia Supreme Court, declaring 1937 enabling act, while described as an eminent domain statute, did not actually grant this right to pipelines.

Wage-Hour Officials Claim Control Over Non-Drivers

WASHINGTON, July 8.—All employes of for-hire motor carriers engaged in "interstate commerce," with the exception of drivers, are subject to the hours provisions of the Fair Labor Standards Act until the Interstate Commerce Commission decides whether their activities affect safety and, if so, actually prescribes regulations governing their hours of service, Labor Department's Wage and Hour Division announced today in "Interpretative Bulletin No. 9."

Position of the Wage Hour Administrator, Col. Philip B. Fleming was announced in a second revision of division's bulletin interpreting Section 13 (b) (1) of the wage-hour act issued today.

Bulletin was revised initially in June, 1939, when the ICC decided its jurisdiction extended only to drivers. Today's second revision is in view of Supreme Court's recent decision in the American Trucking Assn.'s hours case and the ICC's decision to regulate the hours of private motor carrier employes effective August 1.

Hearings Scheduled

ICC will hold hearings beginning July 23 at Chicago to determine which, if any, employes, other than drivers, perform duties affecting safety of operations. Trucking industry contends that other types of employes, such as mechanics and dockmen, have a definite bearing on safety and should fall within the ICC's jurisdiction — which permits longer hours.

"All employes of common and contract motor carriers engaged in interstate or foreign commerce, except those drivers over whom the ICC has taken jurisdiction, are entitled to both the minimum wage and maximum hour benefits of the Fair Labor Standards Act," Col. Fleming announced.

"Drivers of private carriers,"

Col. Fleming said, "will be exempt from the maximum hour provisions" of the law starting August 1, 1940, when ICC regulations governing their maximum hours of service become effective.

Bulletin Cited

This presupposes that ICC's recent order will become operative August 1, 1940. It is not absolutely certain, however, due to posibility of an appeal for a full Commission ruling on this order, and the further contingency of possible court action to stay the order.

Wage-Hour Division's statement calls atention to the effective date and points out that, "as in the case of drivers for common and contract carriers," drivers for private carriers are entitled to the minimum wage of 30 cents an hour.

Revised interpretative bulletin No. 9 of the Wage and Hour Division also points out that the following are not within the exemption:

"Drivers transporting goods in and about a plant producing goods for commerce, chauffers or drivers of company cars or busses transporting officers or employes in the course of their employment in an establishment producing goods for interstate commerce, drivers who transport goods from a producer's plant to the plant of a processor who sells goods in interstate commerce, and drivers who transport goods from a factory to the plant of an independent contractor who performs operations on the goods and returns them by truck to the factory which further processes such goods."

ICC Calendar On Oil Trucking

Decisions

Owners Trucking Co., Inc., Syracuse, N. Y., (MC 16084, Sub. 2 and Sub. 3) permit granted (upon compliance with certain conditions) to operate as a contract carrier of petroleum products from Syracuse and Rochester, N. Y., to points in Pennsylvania located within 150 miles of Tonawanda, N. Y., over irregular routes. Permit granted (upon compliance with certain conditions) to operate as a contract carrier of petroleum products from Newburgh and Kingston, N. Y., to points in described area in northeastern Pennsylvania over irregular routes.

Hearings

Leo S. Tiehan, Dawson, Nebr. (MC 60025, Sub. 1), July 25, Omaha, on application to extend operations as a common carrier of petroleum products in Nebraska and Kansas over irregular routes.

John H. Saylors, Anderson, S. C. (MC 101390), July 29, Greenville, on contract carrier application to transport petroleum products in Georgia and South Carolina over irregular routes.

W. M. Keene, Anderson, S. C. (MC 100214, Sub. 2), July 29, Greenville, on application to extend operations as a common carrier of petroleum products in North Carolina and South Carolina over irregular routes.

Oil Man Wins Safety Award, 850,000 Accident-Free Miles

Special to N.P.N.

ST. JOSEPH, Mo., July 6. — For having driven 850,000 miles without an accident in 25 years, Waller R. Young, city salesman of the Standard Oil Co. of Indiana in its St. Joseph, Mo., division office, has won the safe drivers' contest for commercial passenger vehicles conducted by the National Safety Council, Chicago.

Mr. Young attributed much of his record to the fact that he has always tried to keep his automobile in safe mechanical condition, a lesson he learned, he said, when he was equipment superintendent of the company in St. Joseph.

"The average driver of a car is not very familiar with the mechanical condition of his car," he declared, "and in a great many cases the safe operation of a car depends on the knowledge of a driver and his ability to operate his car."

Inspects Car's Condition

Mr. Young has always made it a point to inspect his car by checking the brake, steering gear, tires, etc., because "too often cars are taken out on the road that are not in a condition to be operated in a safe manner and this has caused many accidents."

Experience gained in the safe operation of passenger cars and trucks as company equipment superintendent gave him, he explained, information that the average driver would not likely get in the operation of his car.

Mr. Young paid tribute to his company's program for the promotion of safety and said that "many suggestions that were given by our safety department have been very useful in the handling of a car and the prevention of accidents."

He has always observed the speed laws in the various states and cities, and has never had any trouble with the authorities in violation of such laws.

"The fast driver is the one to watch," Mr. Young emphasized. "I have always said that any man that does not have his car under control at all times is a menace to all others driving on the highways."

Waller R. Young, St. Joseph, Mo., city salesman for Standard Oil Co. of Indiana, who has driven 850,000 miles without an accident, during past 25 years

Texas Rails Weigh New Scale of Rates

N. P. N. News Bureau

TULSA, July 9.—Mid-Western railroads are expected momentarily to announce whether they will accept or reject a scale of petroleum rail rates on Texas intrastate shipments suggested by Chairman C. E. Johnson of Western Assn. of Railroad Executives, it was learned here today.

The so-called Johnson scale of rates is higher than those proposed by Texas railroads on shipments from 75 to 225 miles.

Rails had at first proposed a set of "truck-competitive" rates comparable with those now in effect in Oklahoma and Kansas. This scale represented deep cuts in present rates up to 250 miles. Disagreement with this scale by some Texas railroads sent the matter of "truck-competitive" rates to Chairman Johnson for consideration. The Johnson scale is the outcome of this appeal to W.A.R.R.E.

Should Texas railroads approve the Johnson scale, Texas Railroad Commission will be called in to pass on the scale.

Rails See No Limit On Using Tank Cars

N. P. N. News Bureau

WASHINGTON, July 8. — There is no possibility of American Assn. of Railroads limiting use of tank cars as it has restricted use of coal cars to conserve transportation capacity.

Inquiry at the Car Service Division of the A.A.R. today disclosed that there is no prospective shortage of tank cars since there has been a plentiful supply of this equipment for years due to the extensive transportation of petroleum and products by pipeline, barge and truck.

Car Service Division announced July 5 that effective July 15 "no coal cars will be placed for loading at coal mines where more than one day's supply already was being held under load and unconsigned. Such cars are commonly referred to in the trade as 'no-bill' coal loads."

Promptness with which loaded tank cars move does not involve any transportation waste through use of the cars for storage, officials said.

Socony Cuts Prices On Kerosine, Fuels

N. P. N. News Bureau

NEW YORK, July 8.—Socony-Vacuum has announced reductions in its tank car and tank wagon prices for kerosine, and No. 2 and No. 3 fuel oils in Western New York State, effective July 3.

At Rochester, new kerosine tank car price was 5.7c, down 0.4c, and tank wagon price was 8.1c down 0.4c; new No. 2 and No. 3 tank car price was 5.4c, down 0.3c, and tank wagon price was 6.9c, down 0.3c. At Buffalo, kerosine tank car price is 5.5c and tank wagon 7.5c, down 0.4 and 0.5c, respectively. Reduction did not affect prices for No. 2 and No. 3 fuel oils at Buffalo, a company official said.

Edwin B. Hopkins Dies

Edwin B. Hopkins, 57, oilman, died July 5 at Dallas, following a heart attack. Mr. Hopkins was author of many technical articles and for several years was a vice-president of the American Petroleum Geological Assn.

Refining Technology

CLUDING INTERNATIONAL PETROLEUM ECHNOLOGY

HAS the ultimate in quality of motor oils been reached without the use of chemical additives? There are indications that this point has not been reached and Pennsylvania refiners are watching with considerable interest the experimental work being done at Pennsylvania State College on this problem as a part of the research project of the Pennsylvania Grade Crude Oil Assn. This work has gone far enough to indicate that blending and compounding will become more and more important in lubricating oil production.

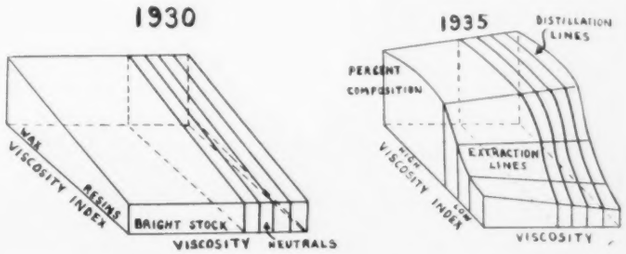
It has been more than hinted in the past two or three years that lubricating oil refining processes have reached the stage where, like flour milling, they remove valuable constituents of the oil. Oxidation inhibitors and corrosion inhibitors, particularly, have been thought by some to be removed in some methods of refining.

A methodical investigation is being made at Penn State in an effort to determine just what parts of the lubricating oil fraction should go into a motor oil. By a combination of distillation and solvent extraction methods the lubricant fraction of the crude has been cut into a large number of smaller fractions which are being studied separately to determine their composition and properties.

Already great progress has been made in this investigation, particularly in determining the viscosity index of the small fractions. This has resulted in the discovery of a large percentage of material of over 100 V.I. Little publicity has been given this work at Penn State although its accomplishments have been fully described in reports to the Pennsylvania Grade Crude Oil Assn. Publication of more details of the work may be made at the September meeting of the American Chemical Society in Detroit.

One of the most effective tools in making this type of study has been the availability of solvent extraction methods. Distillation of a lubricating oil fraction separates the oil into closer fractions of higher and lower molecular weight and correspondingly higher and lower viscosity. Solvent extraction, on the other hand, can take a narrow distilled cut containing high and low V.I. constituents and separate it still further into narrow fractions of high and low V.I.

The method used by Penn State researchers was illustrated by Dr. M. R. Fenske at the recent annual meeting of the Pennsylvania Grade Crude Oil Association. The accompanying diagrams illustrate what was known about the lubricating oil fraction of Pennsylvania crude in 1930 and 1935.



A typical chart showing today's knowledge of the lubricating oil fraction looks like a jack-pot stacked along the side of high viscosity index with smaller stacks of chips graduated down into the foreground of the chart. A combination of the two refining methods, distillation and solvent extraction, therefore, makes a wide increase in the possibilities in blending and compounding lubricants.

The next step is to find out in which of these narrow fractions there may be concentrated constituents which may be of value in improving other characteristics of an oil, such as in inhibiting oil oxidation or acidity and corrosive tendencies. Considerable work is being done to determine just how good an oil can be made without the addition of chemical agents. At State College they are working with the hope, that by proper selection of the constituents of a lubricating oil, it may still be possible to boost the quality of Pennsylvania oil without additives. The work is not completed. No quarrel is being started with those who are getting results with additives but there are interesting facts being learned in this investigation regardless of its relation to the realm of additives and improved oils that will probably result with or without chemical additives.—M. G. V.

Diesel Fuel in Houdry Distillate Close to Straight-Run Quality

By W. S. Mount* and E. T. Scafe*

This is a condensation of a paper presented to the Oil and Gas Power Division, American Society of Mechanical Engineers, Asbury Park, N. J., June 19.

ABSTRACT

The adaptability of the Houdry process to the production of diesel fuel is of importance after the limit of availability of straight-run fractions of suitable volatility is reached. When it becomes necessary to blend cracked distillate into diesel fuel, the higher cetane number of catalytically cracked distillate, 46 as compared with 35 for thermally cracked distillate, makes it the more suitable as a blending stock. Catalytically cracked fuels from Pennsylvania and Oklahoma City crudes are only slightly lower in cetane number than the straight-run products of similar physical characteristics and both yield equally to ignition accelerators. Other physical characteristics are similar to straight-run products.

DIESEL engine sales in the last five years have increased rapidly in the highly competitive gasoline engine and steam power-plant fields. Obviously, the choice of diesel is made only after assurance of an adequate supply of the proper quality fuel.

The Houdry process, which has been widely publicized as a means for producing gasoline of high anti-knock quality, also produces usable distillate fuel and at the same time gives a total liquid recovery which is greater than when thermal cracking alone is used. For these reasons catalytic cracking as represented by the Houdry process is expected to play an important part in future diesel development.

Because of the relatively small volume of diesel fuel sales as compared to that for gasoline and heating oils, diesel fuel is a minor product of a refinery, requiring, however, careful processing to maintain its quality. The ratio of gasoline engine horsepower to that of diesels in United States is shown in the following comparison:

TABLE 1

Relationship of Diesel to Gasoline Power

Total Diesel H.P. installed Jan. 1, 1939	12,098,000 H.P.
Total Gasoline Engine H.P. installed in motor vehicles Jan. 1, 1939	2,030,000,000 H.P.
Proportion of total represented by Diesel engines	0.6%

The most rapid growth of the diesel industry during recent years has been in the medium speed classification. Table 2 shows the percentage of the total diesel horsepower represented by each of the engine classifications. The most important problem of quality presented by diesel fuels is that of obtaining suitable ignition characteristics. It will be noted that Table 2 gives approximate cetane number requirements for the different diesel engine classifications encountered. Although the use of the high speed diesel engine in trucks and buses is becoming more widespread, the present horsepower in this category is only about 7% of the total. The requirements of the remaining 93% of the diesel horsepower could be met with a fuel of lower than 45 cetane number. While it is difficult to say exactly how much fuel of better than 50 cetane number will be required for the future, it is probable that unless the price of fuels of this type is increased to warrant their segregation and distribution, the major proportion of the supply will consist of fuels having an ignition quality of 50 cetane number or lower.

Volatility Important Property

The other important physical property of diesel fuels is their volatility as measured by distillation. Although in the past, for low speed operation a considerable quantity of residual fuels have been sold, because of their cheapness, it is probable that future increases will be very largely in the distillate fuel range, since this type of fuel is required

*Socony-Vacuum Oil Co., New York.

TABLE 2

Engine Classification and Fuel Requirement 1939

	Application	Cetane Number	Total Diesel H.P. In Use 1 1 39	% of Total H.P. By Classification
High Speed (Above 1200 R.P.M.)	Urban Bus	50 Min.	70,000	.6
(Above 1200 R.P.M.)	Cross Country Bus, Motor Truck	50 Min.	770,000	6.4
Medium Speed (500 to 1200 R.P.M.)	Tractor, Power Shovel and Locomotive Diesel	40 to 45	4,658,000	38.0
(500 to 1200 R.P.M.)	Marine, Power Generators, Pump and Industrial Units	35 to 40	2,170,000	18.0
Slow Speed (Below 500 R.P.M.)	Very large power plants and large marine engines	30 to 40 In some cases no cetane specification	4,430,000	37.0
	TOTAL DIESEL H.P.		12,098,000	100.0

NOTE: Total Diesel H.P. broken down into separate classifications by estimation based upon relative sales. No exact figures available. Cetane number specifications are drawn up to include most critical engine types in each class.

for most medium and high speed operation. There is some indication that for truck and bus operation it will be necessary to have relatively volatile fuels, boiling in the kerosine range, but most of the business, as at present, will be in the same range as domestic and industrial furnace oil, with intermediate volatility characteristics—between those of the kerosine distillates and the heavy residua.

The prospective purchaser of diesel equipment is faced with the question of whether higher efficiency combined with lower cost fuel justifies the higher initial cost of the diesel equipment. There are no indications that improvements in the efficiency of diesel engines are in any way dependent upon improvements in the quality of fuels as in the case of the gasoline engine. Further increases in the efficiency of the automotive gasoline engine will improve their competitive position with respect to the diesel engine. However, a future seems to be assured for diesel fuels and it is likely that these fuels will remain at a low price level.

The Houdry Process

In general, the yield of gasoline by Houdry catalytic cracking will be about 45%, based on charge to catalyst from a single-pass operation on any stock, whether gas oil or residue. A yield of approximately 55% on case charge of distillate, suitable either directly or in blends with straight-run distillate for diesel operation, is obtained with no production of heavy cracked residuum.

It has been pointed out that the diesel fuel market is very small as compared to the gasoline market. Assuming that it were desirable to produce a maximum yield of high octane number gasoline, thermal cracking of the catalytically produced Houdry distillate fuel may be advantageously practiced. The stock is clean, minimizing coking difficulties, and cracks about as easily as virgin gas oil to produce high octane number gasoline. On the other hand, if a situation existed where it were desirable to produce a maximum yield of diesel fuel, the straight-run distillate could be segregated without any further processing. The heavier residuum could be handled effectively by the Houdry process to obtain a maximum yield of distillate fuel of reasonably good ignition quality.

The adaptability of the Houdry process to the production of diesel fuel can best be understood by an examination of comparative data on yields and type of product available. In general, it can be assumed that diesel fuel will be produced from straight-run fractions of suitable volatility up to the limit available in any given crude, since, insofar as possible, it would be desirable to market the straight-run product. Where the demand for diesel fuel is such that there is sufficient straight-run distillate to meet market requirements, the excess distillate may be cracked thermally or by the Houdry process. When insufficient straight-run distillate is available, the Houdry or thermally-cracked distillate derived from processing of residuum must be utilized.

Table 3 shows typical yields, processing a Mid-Continent crude, for two cases, one in which Houdry equipment is available, and the other where only conventional thermal equipment is available for cracking. The yields shown are computed on the basis of varying fuel oil requirements and producing maximum yields of gasoline consistent with the distillate fuel oil yields assumed. Houdry yields are obtained from the paper previously mentioned. Thermal cracking yields are based on laboratory and plant test data obtained by the Socony-Vacuum Oil Co.

It will be noted in examining Table 3 that for any given diesel fuel oil production:

1. The cetane number of the diesel fuel production is equal in both cases until the amount of straight-run fuel distillate from the crude is exhausted, then the much lower cetane number of the thermally cracked distillate (cetane number 35) as compared with the Houdry cracked distillate (cetane number 46) results in lower cetane numbers on the blends containing the former;
2. The yield of gasoline is greater using Houdry equipment than without it in all cases.

The above advantages mainly reflect the ability of the Houdry process to handle heavy reduced crudes effectively.

TABLE 3

Comparison of Refinery Operations When Processing Mid-Continent Crude With and Without Houdry Equipment

Assumed Diesel Fuel Requirement*	—Percent on Crude Run— 10	20	30	40
WITH HOUDRY PROCESSING				
Diesel Fuel Composition				
Percent Straight Run	100	100	100	75
Percent Houdry Fuel	....	....	....	25
Diesel Fuel Cetane No.	55.0	55.0	55.0	52.5
Gasoline Yield	70.0	62.8	55.5	51.7
†Gasoline Octane No. (Unleaded) (1939 Research Method)	63.3	61.1	58.2	56.5
WITHOUT HOUDRY PROCESSING				
Diesel Fuel Composition				
Percent Straight Run	100	100	100	75
Percent Thermal Cracked	....	....	....	25
Diesel Fuel Cetane No.	55.0	55.0	55.0	50.0
Gasoline Yield	63.7	57.1	50.4	45.1
‡Gasoline Octane No. (Unleaded) (1939 Research Method)	56.1	54.3	52.1	49.9

*This material also includes furnace oil unless it is the practice to segregate it from diesel fuel.

†Includes 33.3% Straight-run gasoline of 42.5 Octane No., (1939 Research Method), also gasoline produced from Houdry cracking Straight-run residuums, thermal cracking Houdry cycle stock, and viscosity breaking Houdry tar.

‡Includes the Straight-run gasoline as in (†) above and gasoline produced by thermal cracking the straight-run residuums.

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Similar results would be obtained using crudes containing smaller percentages of straight-run distillate.

The Properties of Houdry Fuel

As previously mentioned, ignition quality is the most important characteristic of a diesel fuel. Ignition characteristics of a number of Houdry fuel oils, processed from a wide variety of crudes, are given in Table 4. In all but a few cases the ignition quality is sufficiently high to satisfactorily meet the requirements of medium and low speed engines. Some of the fuels having a rating in excess of 50 cetane number are high enough in ignition quality for use in engines of the high speed type. Ignition quality for the final product is largely a function of crude source, paraffinic crudes giving higher ratings than naphthenic base crudes.

Catalytically cracked fuels from Pennsylvania and Oklahoma City crudes are only slightly lower in cetane number than the straight-run products of similar physical characteristics. Fuels from other crudes tested show ratings as much as 14 cetane numbers lower than corresponding straight-run stocks. The lower values for some catalytically cracked fuels cannot be explained until more data becomes available.

Fig. 1 shows the influence of boiling range on the ignition quality of diesel fuel cuts. As volatility decreases, the difference between the cetane number of fractions derived from Houdry cracking and straight-run processing becomes smaller. There are indications that in the case of thermal cracking the cetane number is more uniform throughout the boiling range, and of course is substantially lower than that of either the Houdry or straight-run distillate for any given crude.

Just as in the case of gasoline, additional flexibility in the specified ignition quality is now made possible by the use of tetraethyl lead so, in the future, should the demand warrant, ignition accelerators will probably be available for improving the quality of diesel fuel. In the case of gasoline, the use of anti-knock compounds came into the picture early in the art because straight-run gasoline was relatively poor in anti-knock quality and required re-forming if high quality fuel was to be produced. However, in the case of diesel fuels, the reverse situation exists. The straight-run product is most satisfactory, and at present there is a sufficient quantity of it to meet requirements far in excess of the present demand. When this situation no longer exists, and if a high cetane number fuel is required, it will be necessary to use ignition accelerators to improve the quality available in cracked stocks.

Fig. 2 shows the extent of cetane number improvement obtainable using a typical ignition accelerator, amyl nitrate. It will be noted that both catalytically cracked and straight-run fuels are equally susceptible to improvement, and that approximately 11 cetane numbers increase is obtained through the use of 1% of the addition agent. With the present cost of 10c per pound for amyl nitrate, this results in an increase in the fuel price of 0.72c per gallon. It is apparent that the use of compounds of this type is a matter of economics.

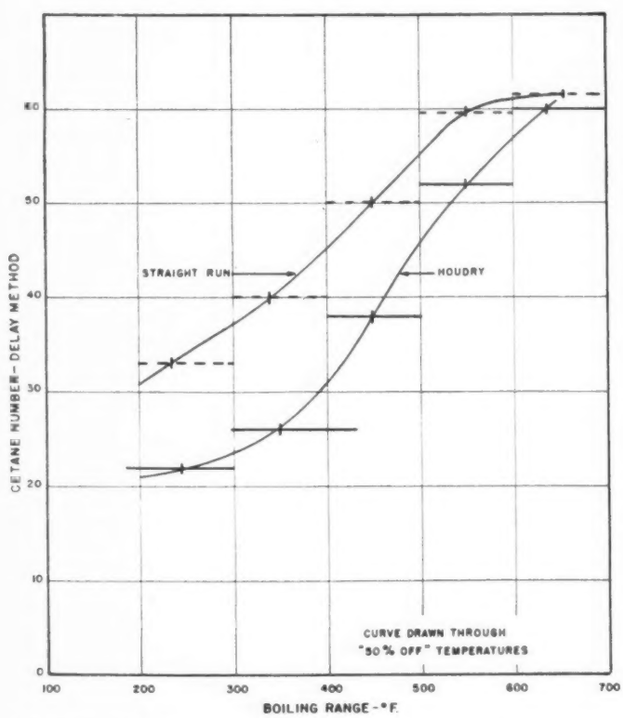
As regards other physical characteristics catalytically cracked fuels are quite similar to straight-run products. Table 5 lists a number of such products in comparison with straight-run fuels,—the gravity of the catalytically cracked fuels will be somewhat lower, indicating that some advantage might be claimed from a fuel consumption standpoint. Viscosities for the cracked products are slightly lower, but still satisfactory for conventional fuel injection equipment. Pour point, flash point, and sulfur are satisfactory. Conradson carbon values indicate that the deposition characteristics of catalytically cracked fuels should also be comparable to straight-run products. Fuel

TABLE 4

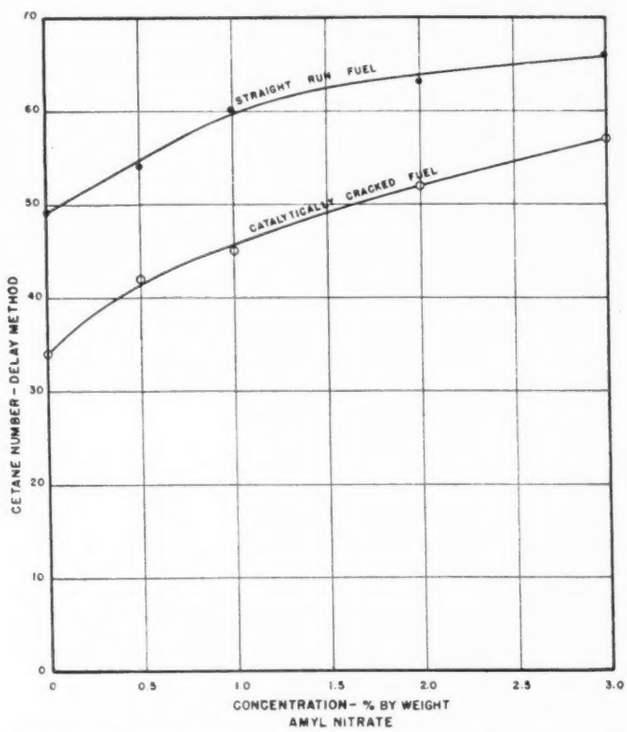
Cetane Numbers of Straight-Run and Houdry Catalytically Cracked Fuel Oils

Crude Source	Cetane Numbers—Houdry Cracked	Cetane Numbers—Straight Run
Pennsylvania	62	64
Oklahoma City	55	56
Healdton	52	53
Illinois	48	56
Kansas	46	58
Luling	40	..
Frio County	40	54
European Crude	36	49
Mirando-East Texas	35	..
Coastal-Cameron Meadows	30	37
Mirando-O'Hern	24	28

NOTE: The above drops in cetane number from straight-run to Houdry cracked are obtained when producing 45% gasoline on case charge. Larger gasoline yields would result in greater depreciation, and smaller yields correspondingly less.



Influence of boiling range upon the cetane number of catalytically cracked and straight run fuels made from an Illinois crude



Catalytically cracked and straight-run diesel fuels are equally susceptible to improvement in ignition quality by addition of amyl nitrate

Table 5

Properties of Straight Run and Houdry Catalytically Cracked Fuel Oils

Charging Stocks	Frio County Crude		Healdton Gas Oil		Oklahoma City Gas Oil		Pennsylvania Crude		European Crude	
Properties	Houdry Cracked	Straight Run	Houdry Cracked	Straight Run	Houdry Cracked	Straight Run	Houdry Cracked	Straight Run	Houdry Cracked	Straight Run
A.P.I. Gravity	25.6	36.2	32.9	34.3	32.8	40.1	38.7	40.1	27.3	32.8
A.S.T.M. Distillation, °F.										
I.B.P.	437	...	468	489	448	358	435	324	380	368
10%	506	458	496	525	487	414	472	478	460	445
50%	..	529	...	590	536	482	520	557	518	521
90%	620	606	594	650	611	573	599	640	606	594
E.P.	646	640	620	662	694	...	652	678	648	...
Pour Point, °F.	15	10	15	15	15	...	10	20	—5	—15
Flash, P.M., °F.	154	160	220	260	...	158	...	...	182	164
Sulfur, % by wt.	1.17	0.54	0.40	0.60	...	0.10	...	...	0.23	0.10
S. U. Vis. @ 100° F. (secs.)	39.0	36.9	38.0	43.0	39	...	39	39	39	39.8
Carb. Res., % by wt.	0.02	0.01	0.07	....	0.09	...	0.12	0.01	...	...
Aniline No., °F.	114	165	150	166	146	155	160	180	180.5	...
Diesel Index	29.2	59.8	49.3	57.0	47.9	62.2	62.0	72.2	29.7	...
Cetane Number	40	54	52	53	55	56	62	64	36	49

oils obtained from thermal cracking processes are not usually used as diesel fuel because of their low ignition quality and, because of their instability, may cause gumming of injection equipment and filter clogging.

Conclusions

It has been pointed out that, should the demand for diesel fuel increase to the extent where the supply of straight-run fuels is insufficient to satisfy the market, Houdry distillates will be quite satisfactory for use as diesel fuel. Since the market for high octane gasoline will probably continue to grow, the Houdry process should be of great value to the refiner because of its ability to produce large yields of high octane gasoline and at the same time is able to produce distillates suitable for use as diesel fuel and domestic heating oils.

Jersey Standard's Manufacturing Chief Has Petroleum in His Blood

● Never more than a three weeks' vacation away from petroleum since he was born, J. Raymond Carringer, whose picture occupies the place of honor on the front cover of this issue, was advanced June 4 to general manager of manufacturing operations and elected a director of the Standard Oil Co. of New Jersey, chief subsidiary of Standard Oil Co. (N. J.)

Mr. Carringer was born in Olean, N. Y., where his father was employed by the Standard Oil Co. Just as in an earlier generation any boy born to a seafaring parent along the Maine coast between Bath and Rockland was expected to follow the sea for a living, so it was assumed that any Olean lad with a parent working for "Standard" would enter the oil business. Young Ray early showed that bent—not so much in the western New York town as in Whiting, Ind., to which plant the elder Carringer was transferred by "Standard" when Ray was three years old.

The Whiting plant was familiar ground by the time the younger Carringer was ready for a job there. When he went to work in June, 1904, he was acquainted with refinery procedure from a job in the tank car building shop the previous summer, and he knew all the departments and a good many of the employes through having delivered newspapers in the plant for three years while he still was in school. He worked successively in the pipe shop and laboratory until 1907, when he was transferred to take charge of the inspection work in the Neodesha, Kans., refinery. A year later he was sent to the newly-built Wood River, Ill., plant and given charge of its oil inspection department.

Around 1912 Mr. Carringer was chosen by E. M. Clark, who was retired July 1, 1933, as a director of the Standard Oil Co. (N. J.), to work with him on experimental pressure distillation. Under Mr. Clark's direction this work progressed steadily and resulted in the development of the Burton-Clark pressure stills, many hundreds of which were subsequently used by the industry both in the U. S. and foreign lands. Mr. Carringer's present grasp of refining processes stems from a quarter of a century ago when he supervised the operation of pressure distillation equipment at the Wood River plant.

Mr. Carringer first saw the Bayway refinery of Standard of New Jersey in 1915, when he was loaned by the Indiana company and given charge of the initial operation of 120 new tube type pressure stills. Returning to Wood River, he was sent to Ohio in 1916 to start the operation of pressure stills at the Cleveland refinery of Standard of Ohio. Two years later, and by that time assistant general superintendent of the Wood River plant, he was transferred to Standard of New Jersey and took up duties as assistant general superintendent of its Bayway refinery at Linden, N. J.

When Mr. Carringer went to Bayway, automobiles—and gasoline—were just beginning to hit their stride. One of his first jobs, as head of the plant's process work, was to plan for the operation of 200 tube pressure stills. During these years he also actively supervised a number of process changes which were of fundamental interest in the industry. Particularly important was the changeover of the crude stills from a batch coking process to a continuous operation to a heavy bottom. Accompanying this change was the centralization of the plant's boiler houses, with larger and higher pressure boilers being constructed and the older gas engines discarded in favor of larger and more efficient turbine operations.

Mr. Carringer became general superintendent of the Bayway refinery July 1, 1921, and manager October 1, 1926. On July 1, 1933, he was named assistant general manager of the company's three New Jersey Works—Bayway at Linden, Bayonne Works at Bayonne, and Eagle Works at Jersey City. Three years later—in 1936—he was appointed assistant general manager of all Standard of New Jersey refineries.

Mr. Carringer's most recent promotion had the endorsement of the company's wage earners. His reputation for fairness and square dealing has been achieved over a long period of years. He already has put 36 years into the petroleum business. His father, W. H. Carringer, was retired by the Standard Oil Co. (Indiana) some ten years ago after more than four decades of service.

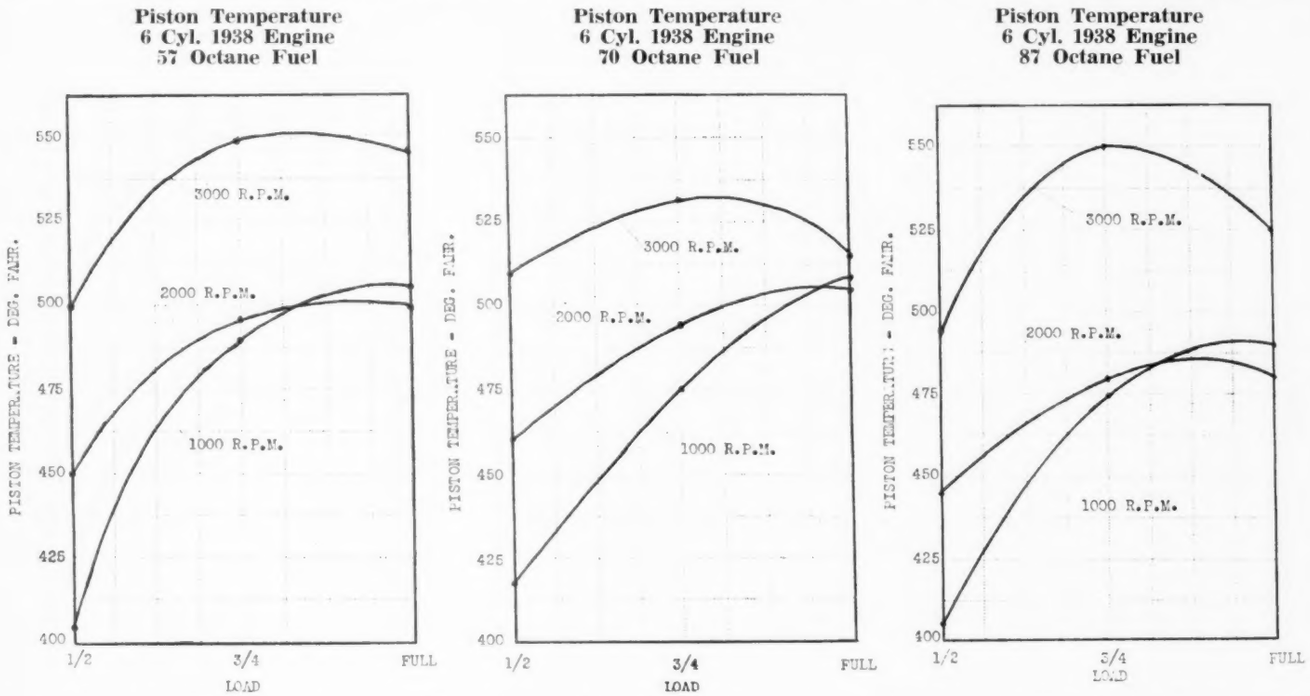
New Piston Temperature Device Checks Oil and Fuel Qualities

DEVELOPMENT of modern high output engines has been retarded by the inability of pistons to withstand the high temperatures, particularly in gasoline aviation engines and two-cycle diesels. The urgent need for a more satisfactory means of studying temperatures of pistons as an aid in their design, the design of engines, and study of lubricating oil stability has resulted in the development of a new thermocouple type instrument for continuous measurement of piston temperatures during engine operation.

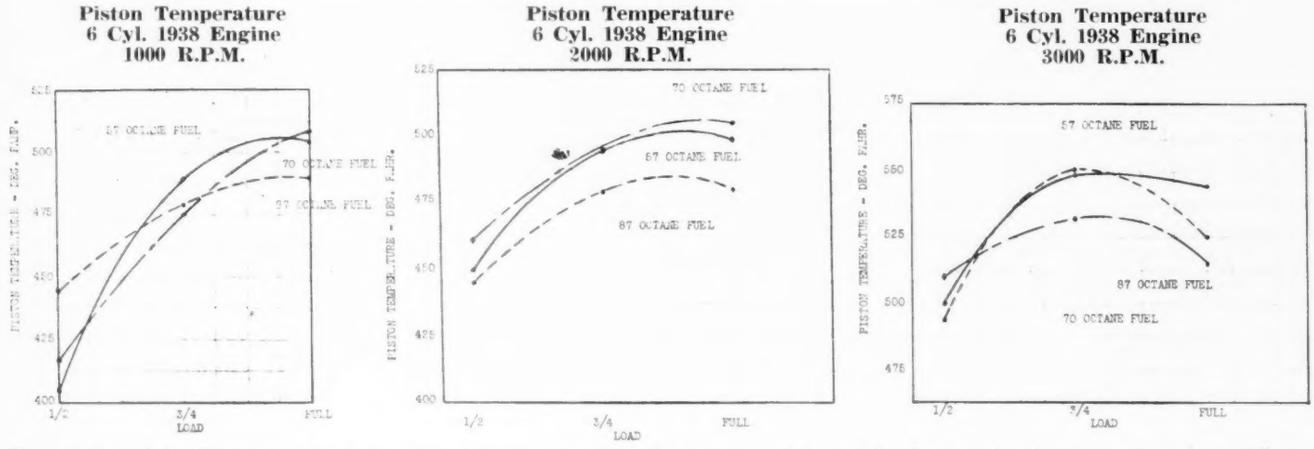
This instrument and some of the uses to which it has been put were described at the recent summer meeting of the Society of Automotive Engineers. Many hundreds of hours operation demonstrated the practicability of this device, according to A. F. Underwood and A. A. Catlin, General Motors researchers, whose paper described it.

The need for continuous measurement and control of piston temperature was particularly evident during tests on the stability of lubricating oil since it was known that the degree of heat had the effect on the piston head of a "hot-plate" within the engine which cooked the oil thrown against it. Thus, too hot a piston caused ring sticking and formation of carbon on the underside of the piston, which falls into the oil pan.

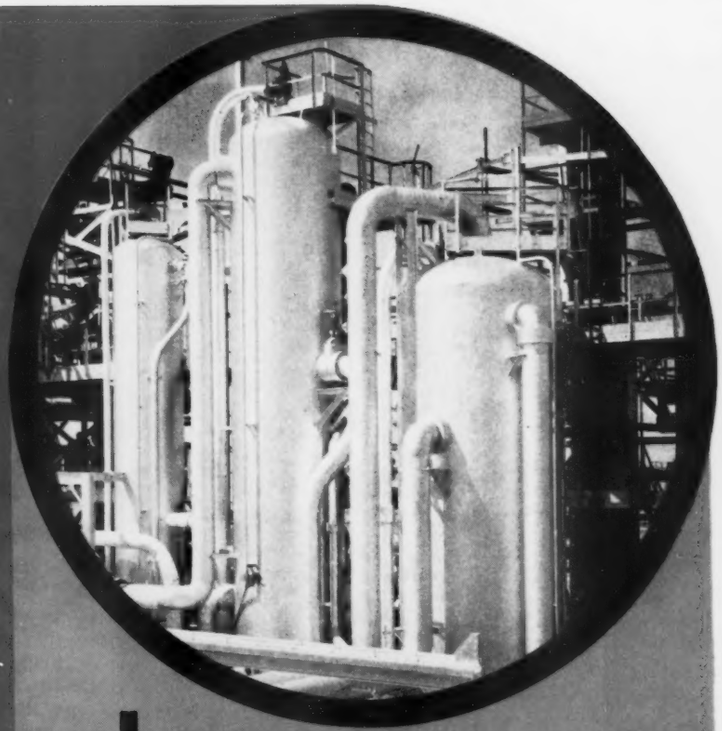
Curves 1, 2 and 3 show the effect of load and speeds on the temperature of a piston for each of three gasolines having 57, 70, and 87 octane number. Curves 4, 5, and 6 show more directly the effect of octane number and load on piston temperature at three different speeds. The authors point out that an increase in speed and load does not always produce a higher temperature. The use of 87-



Figs. 1, 2 and 3. These curves show the effect of load and speed on piston temperature for three gasolines having 57, 70, and 87 octane number. With 87-octane fuel the temperature is reduced under conditions when knock is most likely to occur



Figs. 4, 5 and 6. These curves show more directly the effect of octane number and load on piston temperature at three different speeds. It is interesting to note that an increase in speed and load does not always produce a higher temperature



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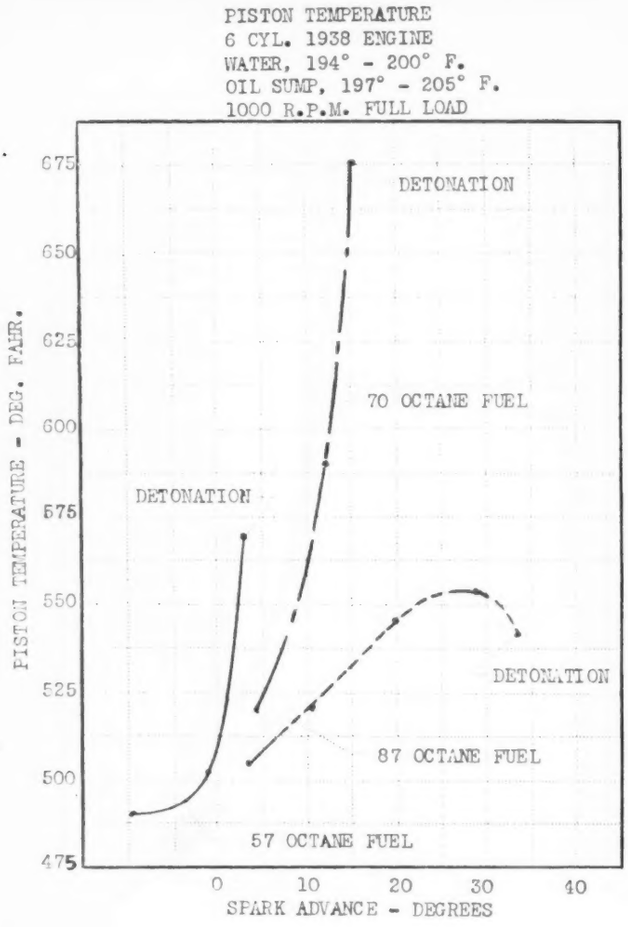

Fig. 7. Piston temperature rises rapidly with spark advance except on 87-octane fuel

octane gasoline shows a reduction in piston temperature under conditions when knock is most likely to occur. Full load at 1000 and 2000 rpm. on curves 4, 5, and 6 also shows this effect.

Fig. 7 illustrates the effect of spark advance on piston temperature when running on each of the three fuels. "The temperature rises rapidly with spark advance except on 87-octane fuel. Some unknown combination of factors caused the temperature to decrease on the latter fuel at the detonating point.

A further demonstration of the type of data that can be obtained with the instrument was a curve relating piston temperature to the pressure of a jet of lubricating oil impinging against the underside of the piston head for cooling.

"The final design of the instrument is shown in Fig. 8. By use of the 'wishbone' supports made of spring wire and snapped into place, the thermocouple wire is led away from the hot piston head. It has been our practice to wind the thermocouple wires around the steel wire, lash with fishline, and cement together with a gasket cement such as 'gasoila'. The 'wishbone' can also be made of tubing and the thermocouple wires led down the center" which is filled with cement.

"A silver alloy, Elkonium No. 1, supplied by the P. R. Mallory Co., Indianapolis, has been found to be perfectly suited for the contacts. This material is furnished as contact points and in strips. The points are pressed into holes drilled at the ends of the bolts which go through the insulating block on the piston. A soft solder is used to 'sweat' the slides to the heat-treated steel spring. All wire connections must be thoroughly soldered.

"For speeds up to 4000 rpm., a contact angle of 70-80 degrees of crankshaft rotation has been used. In the case of our 3¾-inch stroke engine, this amounts to a sliding contact on the silver strip of about ⅜ inch. For laboratory work, a galvanometer having considerable sensitivity is desirable, but with care the galvanometer which comes with the commercial potentiometer will be sufficientiy accurate for automotive work.

"By changing the design of contacts, it is entirely possible that temperatures of any rotating or reciprocating mechanism may be obtained. This would allow measurement of the temperatures of bearings, valves, etc. A reciprocating motion is perhaps more desirable because of the slow motion at the ends of the stroke."

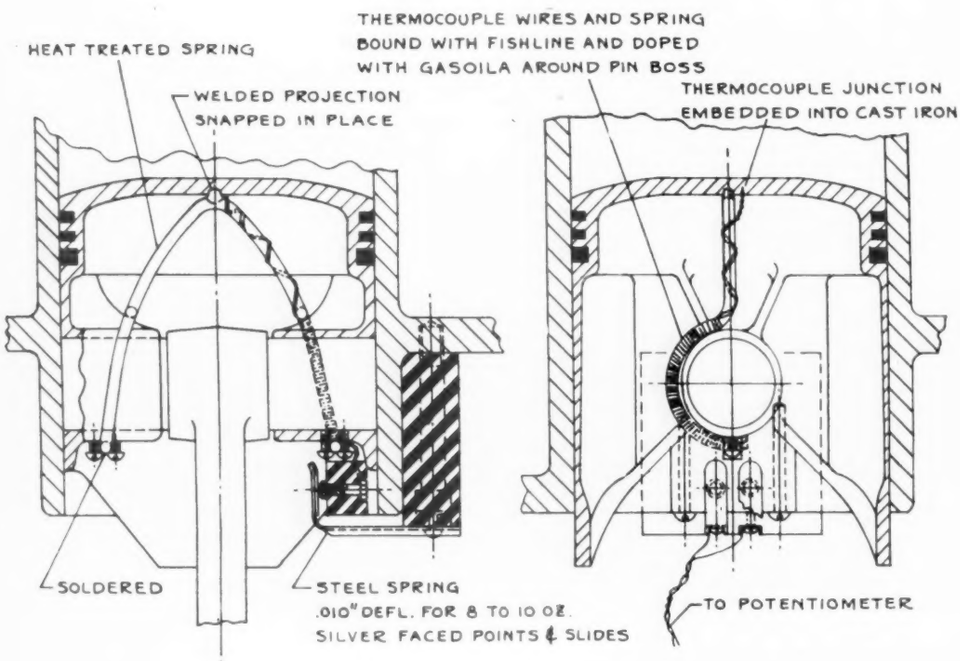

Fig. 8. The final design of an instrument for measuring piston temperatures

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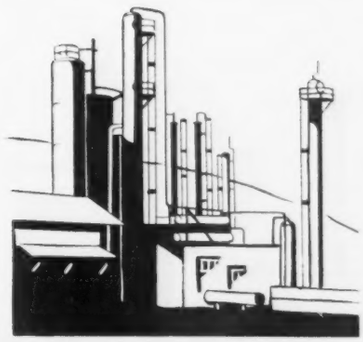

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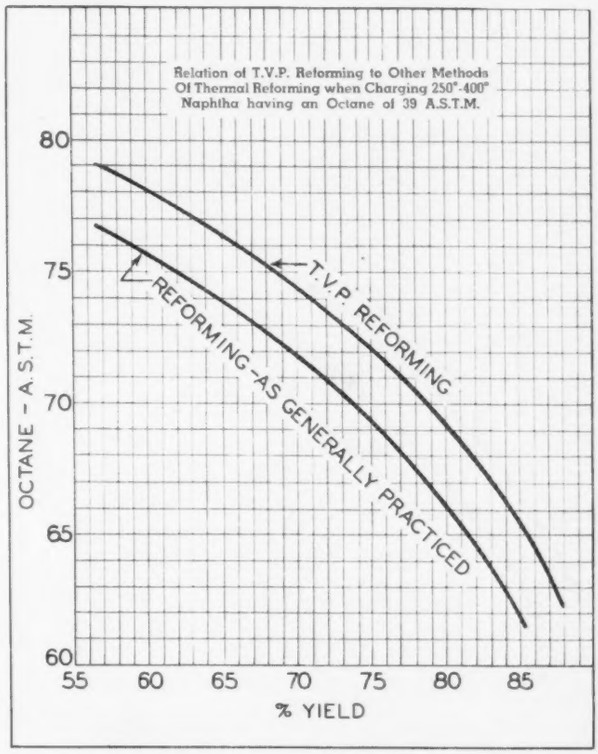

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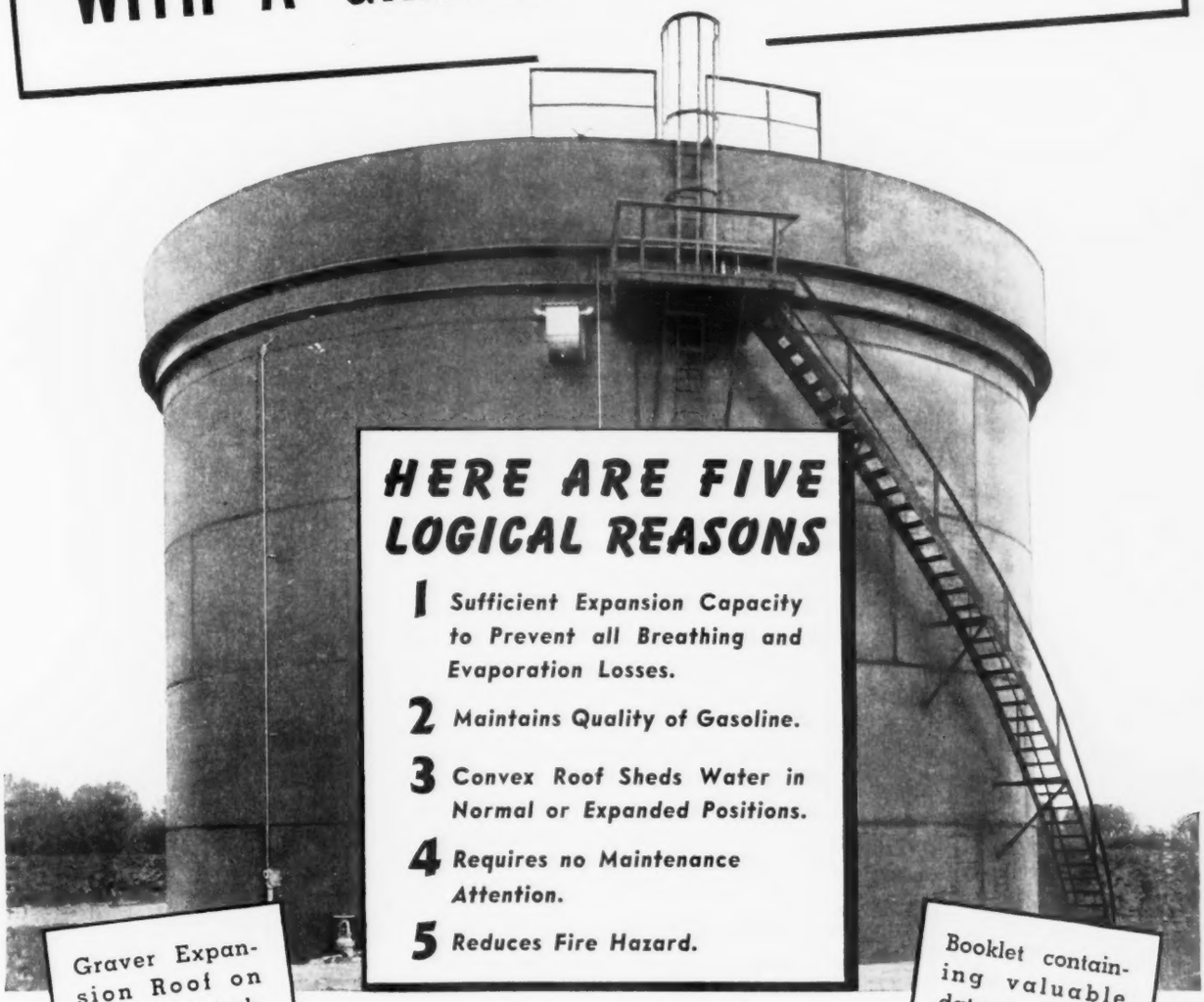

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Turner, N. C.—	Thermal Reforming Plus Polymerization Pulls Octane Ratings Upwards (also by R. P. Mase)	Apr. 3,	R-113
Van Voorhis, M. G.—	Refinery Building Brings Turning Point in Gasoline Processing; U. S. Refinery Construction in 1939	Jan. 10,	R-3
	C.F.R. To Develop New Gasoline Road Test Method in 1940	Feb. 7,	R-34
	Continental Oil Desalting Plant Strips 99% NaCl from Louisiana Crude	Feb. 7,	R-44
	Western Pennsylvania Refiners Back on Coal as Gas Supply Fails	Feb. 21,	R-50
	200 Lubricant Additive Patents Issued in 1938 and 1939; List of Patents	Mar. 6,	R-66
	Mid-Continent Gasoline Yield Rises Nearly 0.5% Per Year	Mar. 20,	R-94
	Fuel Injection Gives Safety Fuel Performance Equal to Gasoline, Conclude Several at S.A.E. Aeronautics Meeting	Apr. 3,	R-106
	100 Refineries Now Converting Mercaptans with Copper Salts; Solid and Liquid Processes	Apr. 17,	R-122
	Sohio Polymerization Unit First Using New Catalyst	June 26,	R-230
Yabroff, D. L.—	Octane Number and Lead Response Improved by Solutizer Sweetening (also by A. C. Nixon)	Feb. 21,	R-56

NEW PATENTS

Compiled by R. E. Burnham, patent and trade-mark attorney, 511 Eleventh Street, NW, Washington, D. C., from whom copies may be obtained at rate of 25c each. State number of patent and name of inventor when ordering.

June 4, 1940

Conversion of hydrocarbon oils—J. C. Morrell, assignor to Universal Oil Products Co. Filed Jan. 31, 1938. No. 2,203,025.

Process for recovering alkyl phenols from petroleum oils—W. J. Hund and S. B. Thomas, and D. B. Luten, Jr., Cal., assignors to Shell Development Co. Filed May 25, 1937. No. 2,203,217.

Oil treating plant—R. R. MacDonald, Cushing, Okla. Filed Dec. 16, 1938. No. 2,203,267.

Cracking hydrocarbon mixtures—M. Pier and F. Christmann, Germany, assignors to I. G. Farbenindustrie. Filed July 21, 1937. No. 2,203,470.

Process for distillation of tar or pitch—Otto Reynard, Darlington, England. Filed Jan. 27, 1938. No. 2,203,645.

High viscosity index, high viscosity oil compositions—C. N. Kimberlin, Baton Rouge, assignor to Standard Oil Development Co. Filed Jan. 21, 1938. No. 2,202,801.

Prevention of motor-bearing corrosion, and lubricant for internal-combustion engines—O. L. Brandes, assignor to Gulf Research & Development Co. Filed Aug. 16, 1938, and Jan. 17, 1939. Nos. 2,202,825 and 2,202,826.

Antioxidants, and antioxidants and petroleum oils containing the same—D. R. Stevens, and W. A. Gruse, assignors to Gulf Oil Corp. Filed Dec. 13, 1933, and Apr. 12, 1937. Nos. 2,202,876 and 2,202,877.

Lubricant—T. J. Brown, Cohoes, N. Y. Filed Jan. 11, 1939. No. 2,203,044.

Lubricant—K. P. Powers, assignor to Gulf Research & Development Co. Filed Jan. 18, 1938. No. 2,203,102.

Lubricant and method of lubrication—T. G. Roehner, and E. S. Carmichael, assignors to Socony-Vacuum Oil Co. Filed Dec. 11, 1937. No. 2,203,507.

* * *

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Treatment of motor fuel—Vasili Komarewsky, assignor to Universal Oil Products Co. Filed Feb. 3, 1938. No. 2,203,825.

Catalytic dehydrogenation of hydrocarbons—Vasili Komarewsky, assignor to Universal Oil Products Co. Filed Dec. 31, 1937. No. 2,203,826.

Conversion of hydrocarbons—F. W. Leffer, Kenton-Harrow, England, assignor to Universal Oil Products Co. Filed Oct. 21, 1937. No. 2,203,829.

Conversion of hydrocarbon oils—L. A. Mekler, assignor to Universal Oil Products Co. Filed Sept. 30, 1932. No. 2,203,833.

Treatment of motor fuel—J. C. Morrell, assignor to Universal Oil Products Co. Filed May 4, 1938. No. 2,203,836.

Production of low boiling motor fuels—Mathias Pier, Germany, assignor to I. G. Farbenindustrie. Filed Aug. 24, 1937. No. 2,203,842.

Petroleum distillation—F. J. Smith, Louisville, Ky., assignor to Standard Oil Co. (Ind.) Filed Oct. 15, 1937. No. 2,203,930.

Absorbent cooling system (treating hydrocarbon gas)—H. R. Legatski, assignor to Phillips Petroleum Co. Filed Jan. 7, 1938. No. 2,204,042.

Treatment of hydrocarbon oils—W. A. Schulze, assignor to Phillips Petroleum Co. Filed Nov. 9, 1938. No. 2,204,234.

Gasoline recovery—R. B. Smith, Hammond, Ind., assignor to Sinclair Refining Co. Filed Jan. 19, 1938. No. 2,204,285.

Combustion of fuels (increasing knock value of Diesel fuels)—G. B. Murphy and W. H. Hubner, assignors to Universal Oil Products Co. Filed Sept. 27, 1937. No. 2,203,838.

Solvent for high molecular weight polymers of iso-olefins—P. J. Gaylor, assignor to Standard Oil Development Co. Filed Oct. 17, 1936. No. 2,204,167.

Reclaiming catalysts—W. E. Spicer and R. N. Watts, Baton Rouge, La., assignors to Standard-I. G. Co. Filed Sept. 27, 1938. No. 2,204,193.

Alkylation process — E. E. Stahly and E. M. Hattox, Baton Rouge, assignors to Standard Oil Development Co. Filed Nov. 25, 1938. No. 2,204,194.

Manufacture of motor fuel—B. S. Greensfelder, Martinez, and R. N. Shiras, Long Beach, Cal., assignors to Shell Development Co. Filed June 15, 1936. No. 2,204,215.

Oil-insoluble reaction product of an alkanol amine and petroleum sulphonic acids—K. T. Steik, assignor to Standard Oil Development Co. Filed Nov. 20, 1936. No. 2,204,326.

Sulfurized oil—B. H. Lincoln and W. L. Steiner, assignors to Continental Oil Co. Filed Mar. 18, 1935. No. 2,204,538.

* * *

June 18, 1940

Method of treating hydrocarbons—S. C. Fulton, and Thomas Cross, Jr., assignors to Standard Oil Development Co. Filed Dec. 19, 1935. No. 2,204,673.

Vapor-phase treatment of petroleum—T. B. Leech, assignor to Alcorn Combustion Co. Filed June 10, 1938. No. 2,204,685.

Process of solvent refining petroleum oils—A. W. Hixson, and Ralph Miller, assignors to Chemical Foundation. Filed Dec. 17, 1936. No. 2,204,758.

Purification of ketones and ketols—Fritz Bresler, and Albert Drasky, assignors to Shell Development Co. Filed Feb. 4, 1939. No. 2,204,956.

Process of separating wax from wax-oil mixtures—V. N. Jenkins, assignor to Union Oil Co. (Calif.) Filed Mar. 19, 1937. No. 2,205,096.

Catalysts and process of preparing them, and process for dehydrogenation of hydrocarbons—Llewellyn Heard, assignor to Standard Oil Co. (Ind.) Filed Dec. 17 and 31, 1937. Nos. 2,205,140 and 2,205,141.

Polymerization of olefins—D. R. Stevens, and W. A. Gruse, assignors to Gulf Research & Development Co. Filed Oct. 22, 1936. No. 2,205,159.

Compounded lubricants—R. L. Humphreys and V. N. Borsoff, assignors to Standard Oil Co. (Cal.) Filed Feb. 23, 1937. Nos. 2,204,597, 2,204,598, and 2,204,601.

Method of improving lubricating oil—L. A. Mikeska, assignor to Standard Oil Development Co. Filed Sept. 26, 1936. No. 2,204,609.

Lubricating composition—C. F. Prutton, and A. K. Smith, assignors to Lubri-Zol Development Corp. Filed July 26, 1934. No. 2,204,620.

Lubricating oils—R. C. Cantelo, assignor to Sinclair Refining Co. Filed Jan. 24, 1938. Nos. 2,204,660 and 2,204,661.

Process of lowering the pour points of mineral oils—F. R. Moser, assignor to Shell Development Co. Filed Sept. 25, 1933. No. 2,204,967.

Apparatus for producing activated carbonaceous materials—Oswald Heller, London, England. Filed Oct. 22, 1934. No. 2,205,011.

Motor fuel composition, and plastic compositions—Raphael Rosen, assignor to Standard Oil Development Co. Filed Oct. 23, 1935, and Sept. 10, 1937. Nos. 2,205,107 and 2,205,108.

Purification of gases—A. Le Croy, Baton Rouge, assignor to Standard Oil Development Co. Filed Oct. 12, 1937. No. 2,205,122.

Preparation of sulphur-containing diesel fuel ignition agents—C. H. Seely and M. H. Arveson, assignors to Standard Oil Co. (Ind.) Filed June 30, 1937. No. 2,205,126.

Preparation of lubricants—J. M. Musselman and H. P. Lankelma, assignors to Standard Oil Co. (Ohio) Filed Nov. 26, 1937. No. 2,205,172.

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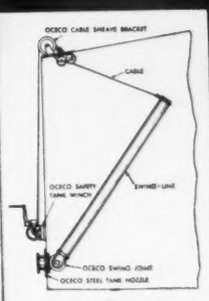

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Diesel Gaining High Place In Ocean-Going Shipping

Summarizing the present marine diesel situation in the U. S., Louis R. Ford, editor of "Motorship," told Oil and Gas Power Division of the American Society of Mechanical Engineers at its recent national meeting that the marine-diesel is rapidly assuming a dominant position in world shipping. In the U. S. it has practically supplanted steam power for the propulsion of small craft and is just now on the eve of wide expansion in the big-ship field.

"The present construction program of the U .S. Maritime Commission calling for a minimum of 50 new ships per year for a period of 10 years, gives us an opportunity for real develpment in the ocean-going diesel plants.

Serious consideration must be given to the use of less expensive fuels in the diesel, Mr. Ford said, since steamers now being built by the Maritime Commission show fuel consumption rates of less than 0.6 lb. per hp hour with fuel costing much less than diesel fuel. Mr. Ford referred to the tanker fleet of the Sun Oil Co. as an outstanding example of what can be done in this respect. These vessels use nothing but heavy fuel.

Broadly speaking, diesel operation with heavy oil is an oil-conditioning problem, Mr. Ford said. The two elements of the problem are reduction of viscosity sufficiently to permit proper injection of the fuel and cleaning the oil to prevent excessive wear of such parts as cylinder liners and pump plungers. Development of modern heat exchangers has simplified the heating procedure and the circulation of oil in the pump-supply lines in excess of pump requirements insures steady maintenance of temperature. Since different oils attain workable viscosities at different temperatures it is important that the correct emperature for each differen oil be accurately determined.

Cleaning of the oil is readily accomplished with centrifuges if the oil is heated. It should be recognized that although operation with heavy fuel is distinctly practicable its success depends on closer attention to details on the part of the engine room crew than when operating on diesel fuel.

Discussing the competition between the four-cycle and the two-cycle type diesel engines, Mr. Ford said the four-cycle engine is steadily losing ground in the propulsion field represented by ships of 100 tons and over. Over a period of seven years a complete change of view regarding these two types is evident. In 1939 two-cycle machinery represented 80% of the total and four-cycle only 20% in ships of over 100 tons. However, in the group represented by motor vessels of 5 to 100 tons, in which group most American motor vessels fall, the four-cycle engine is still holding its own.

A point in favor of the four-cycle engine is that it is more susceptible to step-up of power without charge of dimensions, by use of supercharging. Supercharging is standard practice on European marine engines and no ships are built today with four-cycle engines that are not supercharged. For a group of torpedo retriever boats recently ordered by the Navy, the National Supply Co. modified its 100-hp. engine with a built-in supercharger and increased the rpm., thus producing 200 hp. without increasing any engine dimension.

The gasoline engine has practically no competition from the diesel engine in the group of 278,000 numbered motor boats in this country, it was brought out. Gasoline power, however, is making its last stand in pleasure boats of somewhat larger size, Mr. Ford said. There are today in operation in the U. S. 6000 diesel-powered commercial and pleasure boats and for some years new ones have been added at the rate of about 400 per year.

While the relatively little use of pleasure boats, combined with relatively low cost of gasoline engines, has maintained a place for gasoline engines in pleasure boats, the reduced fire hazard and generally less troublesome operation of the diesel has resulted in a growing use of diesel in the above-five-ton group of pleasure boats, Ford concluded.

Phosgene from Petroleum

Conditions favoring the formation of phosgene from chlorinated hydrocarbons have been reported from Scandinavia. Decomposition of the hydrocarbons is accomplished by irradiation of the vapor by ultraviolet rays from a quartz lamp, for example, or by contact with burning flames or glowing carbon, particularly charcoal. Trichloroethylene and tetrachloroethylene are said to be particularly sensitive to ultraviolet radiation.

Gets Medal from O. S. U.

A. C. Fieldner, director of research, Bureau of Mines, received the Sullivant Medal at the Ohio State University commencement, June 10. The medal is awarded every five years to a graduate of the university for outstanding achievement. The medal is provided from funds left by the late Dr. Mendenhall, first physics department head at O. S. U.

Raymond Szymanowitz, technical director, Acheson Colloids Corp., and his staff are located at the company's new research laboratories in Newark, N. J.

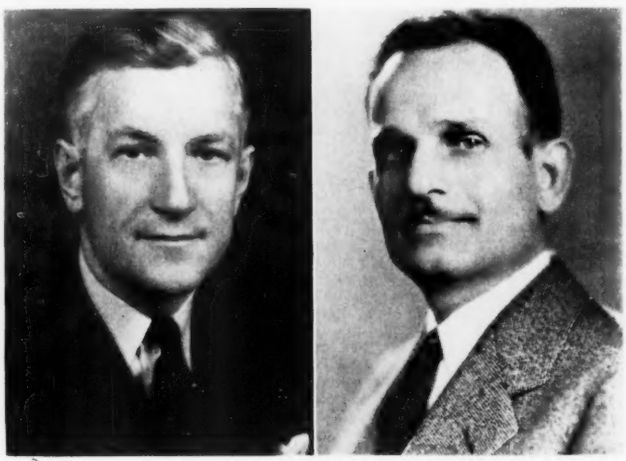
To Revise Technical Manual Of Natural Gasoline Industry

TULSA, June 15.—Republication of the Technical Manual for the natural gasoline industry will be undertaken by the Natural Gasoline Supply Men's Assn. in 1941, that organization's board of directors decided at a meeting here this week.

The manual now in use was issued the last time in 1937 and it was decided to revise data as well as to add current data to the publication.

The N. G. S. M. A. board also discussed at its meeting the possibility of the Natural Gasoline Assn. of America holding its 1941 convention in Texas. The board voted to co-operate with that association just as it has done in the past.

The board meeting was the first since the election of new officers and the first order of business was the installation of the men who will guide the affairs of the organization this year. W. W. Woobank, head of the Woobank Pump & Machinery Co. succeeded A. J. Kerr, Pittsburgh Equitable Meter Co., as president.



Dr. V. I. Komarewsky (left), Universal Oil Products Co. consultant and professor at Armour Institute, and Dr. Jacque C. Morrell (right), associate director of research, Universal Oil Products Co., are teaching intensive summer courses in catalysis to a picked group of practicing chemists and engineers, post-graduate students and teachers. The theoretical side of the subject will be taught by Prof. Komarewsky and the practical application of catalysis in the oil industry will be handled by Dr. Morrell

Frequent Lubrication Needed, Say Bearing Manufacturers

Article No. 2 in NPN's 'Lubricate Every 1000 Miles' Campaign Showing Damage to Bearings from Insufficient Lubrication

● This article, the second in NPN's Summer Lubrication campaign, offers factual evidence on bearing and bushing wear and damage which may result when lubricants are used too long at high operating speeds during the hot vacation months.

It presents engineering facts and illustrations obtained from visits to leading bearing manufacturers of the country and from prominent automotive and lubrication engineers.

Article No. 1 in this series (N.P.N. June 26, p. 25) told how high speeds and temperatures accelerated contamination of lubricating oils. How this contamination threatens satisfactory car performance and operating efficiency, is told in the following article.

It provides material the oil marketer can use in helping the service station salesmen convince the car owner that proper lubrication at 1000-mile intervals is cheap insurance; that poor oil is no economy.

Table 1

Typical cost of repairs on average low priced car. (Costs do not include change of oil on repair of engine)

Replacement Operation	
One main bearing	$10.00
One connecting rod bearing	6.00
Clutch throw-out bearing	8.00
One piston-pin bushing	5.00
Universal joint	10.00
King pin bushings and bearings, each	8.00
Rear axle shaft bearing	5.00
Tie-rod ends	5.00
Spring shackle	2.50
Drag-link ball and socket joints	4.00

Estimated Cost per Passenger Car Crankcase Draining—Chassis Lubrication Specified Intervals

(Oil at 25c per quart—Chassis Lubrication at $1.00)

Drain Interval	Quarts of Oil	Total Cost	Saving Over 1000 Mile Drain Period	Saving Over 1000 Mile Lubrication	Total Alleged "Penny" Saving
1,000 Miles	60	$15.00	....	....	....
1,500 Miles	44	11.00	$4.00	$3.00	$ 7.00
2,000 Miles	40	10.00	5.00	5.00	10.00
2,500 Miles	36	9.00	6.00	6.00	12.00

NOTE: Above Motor Oil cost figures are based on assumption that one quart of oil is consumed every 500 miles—that cars are driven 10,000 miles per year—that crankcase capacity is five quarts.

By J. N. Westsmith
N.P.N. Engineering Editor

TO paraphrase an old medical axiom, it may be said that an automobile engine, or chassis, is as old as its bearings. This is another way of saying that automotive life depends largely upon the maintenance of a clean and adequate film of lubricant between the bearing surfaces.

Particularly important, automotive engineers say, is the maintenance of this protection during the higher speeds, hotter temperatures and road conditions often encountered by many motorists during vacation and summer travel.

Oil and grease contamination, hastened during summer months, plays an important part in reducing efficiency of bearing and bushing lubrication.

Recognition of this fact by the oil marketer, his service station salesmen and the motorist, adds new reasons why "For Safety's Sake" cars should be "Lubricated Every 1000 Miles This Summer."

In general, motorists know very little about the internal working parts of their automobiles, and therefore do not appreciate the need for proper lubrication. For example, the many points at which excessive wear can take place if destruction of the oil film allows metal to metal contact, are illustrated in an accompanying view of a typical engine.

Lubrication is cheap compared to the cost of repairs which may be necessary if an adequate supply of good quality, clean oil is not provided at all times to the important bearing surfaces. An accompanying table shows

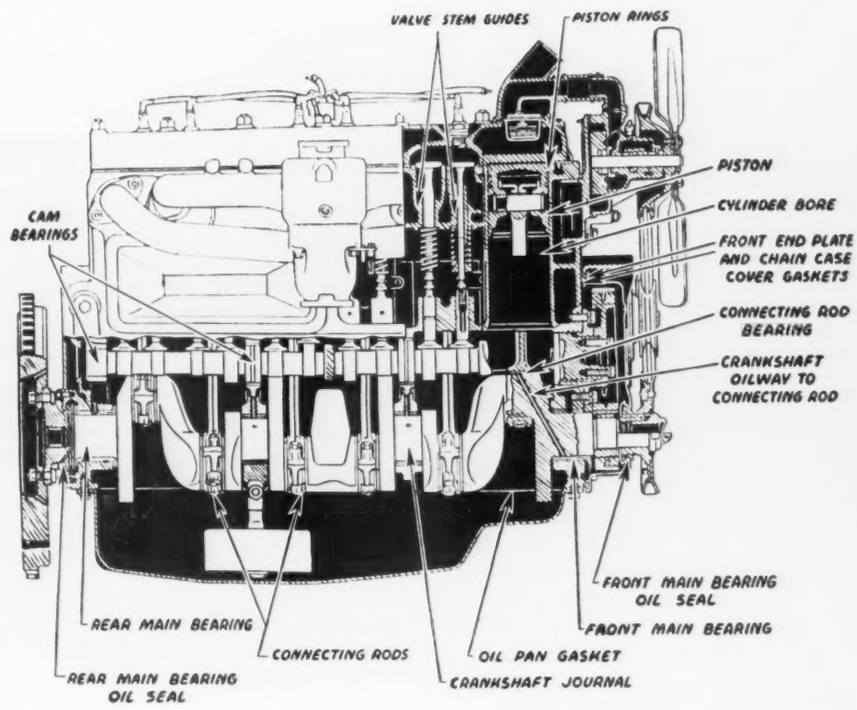


Fig. 1—The modern automobile engine requires a plentiful supply of good quality, clean oil for proper lubrication of the many bearing surfaces illustrated in this cut-out view of a typical engine

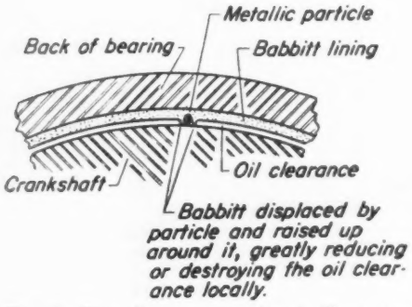

Metallic particle
Back of bearing
Babbitt lining
Oil clearance
Crankshaft
Babbitt displaced by particle and raised up around it, greatly reducing or destroying the oil clearance locally.

Fig. 2—This diagramatic sketch illustrates how hard particles, such as metal or carbon, may become imbedded in bearing lining to displace the babbitt and reduce or destroy the lubricating oil clearance

typical costs of repairing or replacing parts frequently damaged by improper or insufficient lubrication on the average car. This list does not include those parts, such as transmission, differential and front wheel bearings, which require lubrication at longer intervals.

In an engine bearing service manual published by Federal-Mogul, bearing manufacturer, Albert B. Willi, chief engineer of the company, points to bearing condition as an important factor in successful operation of an automobile engine. He says:

"Due to increased engine efficiencies during the past 10 or 12 years the work imposed upon the bearings has materially increased. Today the average passenger car engine develops approximately 79% more power per cubic inch of piston displacement than the engines of 1925, and the revolutions per minute have been increased 27%. Then, an engine which peaked at 2800 to 3000 R.P.M. was considered a high speed type — today, engine speeds of 4000 to 4500 are not uncommon in passenger car practice.

"The same ratio of power output increase is found in truck and other commercial car engines and their average speed has been increased from a range of 1100 to 1300 R. P. M. to 2000 to 2400 R. P. M. and even higher.

"Unfortunately perhaps, for the main and rod bearings particularly, engine size, weight and cost are at a greater premium than ever and bearing sizes and dimensions have not been increased in proportion with the work they must do.

"Intensive development has brought about new and improved types of bearings and bearing materials which have kept pace with other engine efficiencies. But to obtain longest life and best satisfaction, from today's high-output power plants and bearings, demands the highest type of maintenance and repair skill and knowledge on the part of all engaged in this work."

Among the conditions of main, rod and cam bearings lubrication, which this authority says leads to many engine troubles, is:

1. Excessive wear—caused mainly by:

a. Poor or improper grades of oil. This includes the use of oils with poor resistance to oxidation, and the use of too heavy an oil with a tight engine or too light an oil with a worn engine.

b. Road dirt entering engine—due to lack of suitable air cleaner or because existing air cleaner is dirty. Such conditions are equally harmful to pistons, rings, and cylinder bores; in fact, to all working parts.

c. Metallic particles worn from engine parts, road dirt, hard carbon particles or other foreign matter, which are carried into the bearings by the lubricating oil—due to lack of an efficient oil filter or because the existing filter is dirty and unfit for use.

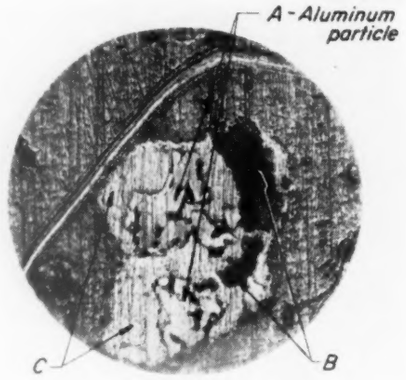


Fig. 3—Greatly magnified view of minute metal particle which was carried in to the bearing clearance by the oil stream, to become imbedded in the lining. Aluminum particles are shown at "A", and cavities where cast iron ships were imbedded, at "B". The babbitt has been displaced and raised up at "C", producing a metal to metal contact with the shaft

2. Cracks and broken out areas in bearing lining—which may be caused by:

a. Dirt and metallic particles imbedded in bearings from unclean oil.

b. Partial failure of lubrication—oil lines and passages clogged with dirt or oil sludge.

c. Use of improper or poor quality lubricating oils.

3. Burned out bearings may result from:

a. Lack of oil.

b. Stoppage in oil supply system.

c. Engine put into hard service immediately after bearing replacement job with too heavy oil.

The harmful effect of dirt, hard carbon, metallic particles or other foreign material in the lubricating oil is aggravated when these substances find their way to the bearing lining, in the clearance provided for the protective oil film.

Here, some of these particles become imbedded in the comparatively soft lining metal. Usually the foreign particles are so small that they are visible only with the aid of a microscope.

But the resulting damage is not microscopic. Research investigation has shown that as the particle is being pressed into the lining under pressure of the revolving engine part, the babbitt does not compress under it. Actually, the babbitt metal is displaced and raised up around it as shown exaggerated in Fig. 2.

Where the bearing lining is bulged up as shown, the oil clearance is greatly reduced or destroyed at that point and a metal-to-metal contact exists without a protecting film of oil. The result of this is heavy scoring of the crankpin, high frictional heat and early bearing failure.

Fig. 3 is a greatly magnified view of a portion of bearing surface into which small metallic particles became imbedded, and Fig. 4 shows—black spots —minute particles of cast iron which were brought into the bearing in the oil stream. It is indicated these conditions resulted from continued use of an oil impregnated with iron particles.

The bearings shown in Fig. 5 are of particular interest, because it was reported the owner of this car believed the pitting was due to oil corrosion. Microscopic examination, however, disclosed continued use of contaminated oil was the cause.

In the enlarged view of selected spots on the bearing surface—at "A" is a typical lump of hard carbon, with an indefinite number of such imbedments in the surrounding area. At "B" the irregular, and mottled appearance is believed due to a hard particle—probably carbon—which came in with the oil and then moved around over the surface under pressure of the oil and rotation of the shaft to leave successive markings.

In discussing these bearings, Mr. Willi says that points 1 and 2 at "C" are

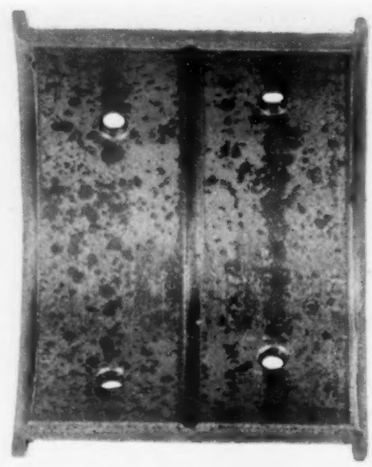


Fig. 4—Very small metal particles containing the lubricating oil may become imbedded in the bearing lining, as illustrated here. The black spots which are a mass of metallic particles on the bearing surface

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of particular interest because they corroborate the illustrations of Figs. 2 and 3.

Point 2 is a particle of hard carbon solidly imbedded in the lining. Point 1 is a cavity left by such a particle. "When these two particles were imbedded, they obviously displaced a certain amount of lining material which was raised up around them and which is indicated by the surrounding gray areas," this bearing engineer said. "At the raised-up areas, the oil clearance was reduced and a metal-to-metal condition of the bearing and shaft existed."

Result of bearing damage from dirt, grit and accumulations of other foreign materials in the lubricating oil is illustrated by Fig. 6, which shows a tin-base babbitt bearing, typical of those used on most passenger cars today.

Dirty oil caused excessive wear along the lower side of the tin-base babbitt bearing shown in Fig. 7. The bearing would have failed if it had continued in use, bearing engineers say.

The particular importance of a free flow of clean oil during summer driving to minimize friction and keep frictional heat generated by a rotating shaft within safe limits, is illustrated by the relatively low melting point of bearing linings used in many engines.

S. A. E. No. 11 babbitt, for example, which is widely used, has a Brinell hardness of approximately 24 at a temperature of 70°F. and a melting point of 460°F. But, at a temperature of 300°F. the Brinell hardness is only 10 and at 400°F. the babbitt is plastic—with no measurable hardness. It is considered unsafe to permit the temperatures at babbitt bearings to exceed 265°F.

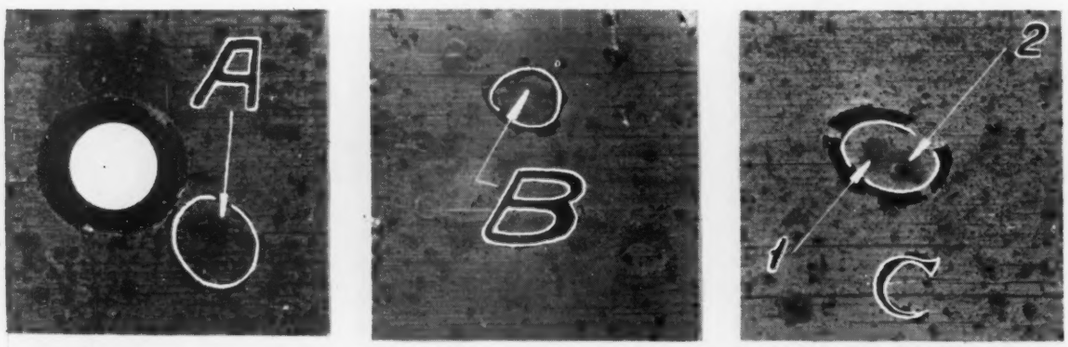
If the supply of oil to a bearing is inadequate or completely stopped, the bearing temperatures quickly exceed the safe limits, the lining is weakened and cracks up, the bond between the lining and the metal backing fails and the entire lining may be melted out or wiped out by action of the shaft, as shown in Fig. 8.

Authorities on bearing performance point out that failure of the oil supply does not necessarily mean that all the oil in the engine has been consumed or has leaked out. "Oil sludge formations or sludge emulsions," says Mr. Willi, "may have clogged the oil suction screen or lodged in the oil passages or interfered in some way with the free flow of the lubricating oil.

"Oil sludge is a sticky, gummy, tarry substance that clings to valves, valve springs, piston rings and other engine parts. It is mainly carbon, dust or other material held together by a sticky binder in oxidized oil."

This oil sludge is a product of oil oxidation, formation of which is accelerated with sustained high-speed driving and aggravated by continued use of contaminated oil. It should not be confused with the sludge emulsions experienced mainly in cold weather operation.

Corrosion of bearings by acids formed in contaminated lubricating oil has been less of a factor with the trend in recent years to the corrosive-re-



Enlarged views of spots A, B and C (5x)

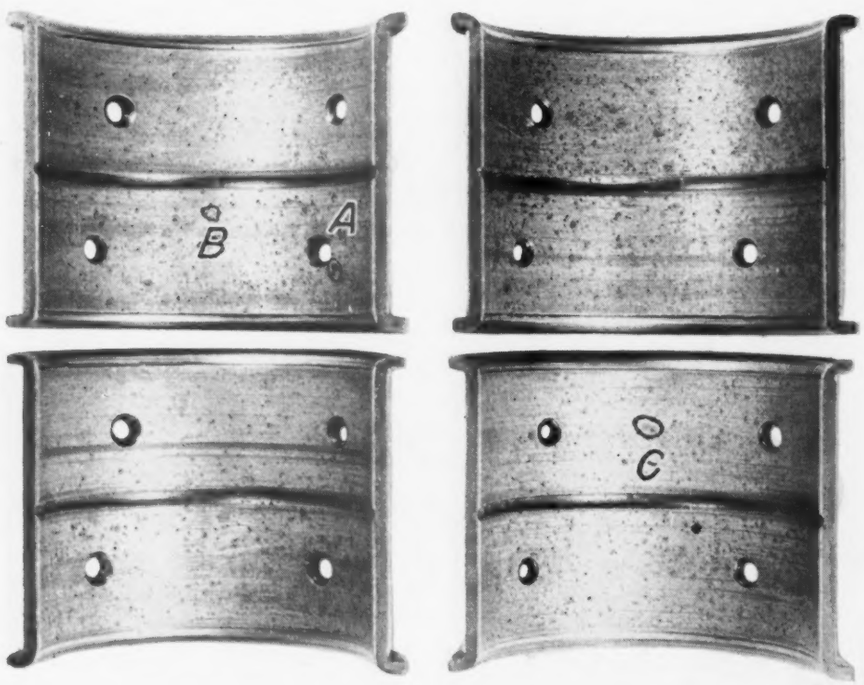


Fig. 5—Bearing surfaces pitted and marred by imbedment of hard carbon particles. The magnified views of spots A, B and C, show how the normally smooth and highly-polished bearing surface was scarred as the carbon particles moved around and finally become imbedded in the lining

Higher Lubricating Oil Quality and Low Costs lead *Fur-fur-al* Refining Licensees to Increase Capacity 35%

IN THE PAST two years, lubricating oil manufacturers already using the *Fur-fur-al* Process *have increased their installed plant capacities by* 35%.

These manufacturers have found by actual operation in their own plants that *Fur-fur-al* Refining *does* produce higher refined oil quality with great simplicity of operation and at low cost.

TEXACO DEVELOPMENT CORPORATION

A Subsidiary of The Texas Corporation

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Fig. 6—This "horrible example" of bearing condition reflects the damage resulting when dirt, grit and other contaminants in the lubricating oil are carried by the oil into the bearing surface. The melted spot at the left is where this tin-base babbitt—a type commonly used on passenger cars today—started to fail under the high frictional heat resulting from the poor lubrication

sistant tin-base babbitt linings. However, corrosion has been experienced with certain types of copper-lead and cadmium-alloy bearings where excessive operating temperatures have caused corrosive acids to form.

It is pointed out that under certain conditions bearing corrosion may occur even with good grade lubricating oils, if excessively high temperatures exist in the oil reservoir and at the bearings. The experience of one bearing manufacturer has indicated that if acids are formed in good mineral oils at temperatures of 270°F. or under, they are relatively harmless, but may become decidedly harmful at higher temperatures.

Normal oil sump temperatures on the modern cars are below the critical range, so that with good oils corrosion trouble is an exception. However, it may develop, bearing engineers say, when excessive frictional heat is built up in bearings from heavy deposits of foreign particles — particularly cast iron, improper and insufficient oil clearance, and oil which is too heavy or which is badly contaminated and sludged.

Fig. 9 shows effect of corrosion on cadmium-alloy bearings.

High-temperature operation has also been found a factor in corrosion of piston pin bushings on some engines, with the condition aggravated as the oil and engine temperatures increase. Investigation has indicated the problem may become critical in these cars at oil temperatures of 240°F. and upward and is more characteristic of forced feed lubrication of rods than with the splash system.

A motorist confronted with evidence pointing to damage which may result from continued use of contaminated or poor quality oils, may counter with the observation that he has never experienced bearing failure.

While out-and-out failure of a bearing on the modern automobile is not as common an experience today as it was a few years ago, there are other engine ills that authorities say can be traced to excessive bearing and shaft wear from any of the causes outlined above.

Research has again shown that this wear, which increases bearing clearances, may become a major cause of oil pumping and high oil consumption. Under forced feed, the lubricating oil is free to leak out or is forced out at the ends of the main rod and cam bearings. The greater the clearance, the greater the volume of oil that leaks or is thrown out.

Under action of the engine, this oil is thrown by the rotating crankshaft with considerable force into interior parts of the engine, particularly into the cylinders where it creates an excessive supply of lubricant which the pistons and rings must prevent from working up into the combustion chamber. If the rings and pistons become worn or clogged, the oil consumption from this source may become serious.

Some interesting experiments made by the Federal-Mogul Corp., show the relation between bearing clearance and oil throw-off from main and connecting rod bearings. The tests were made with equipment specially designed and built for this purpose.

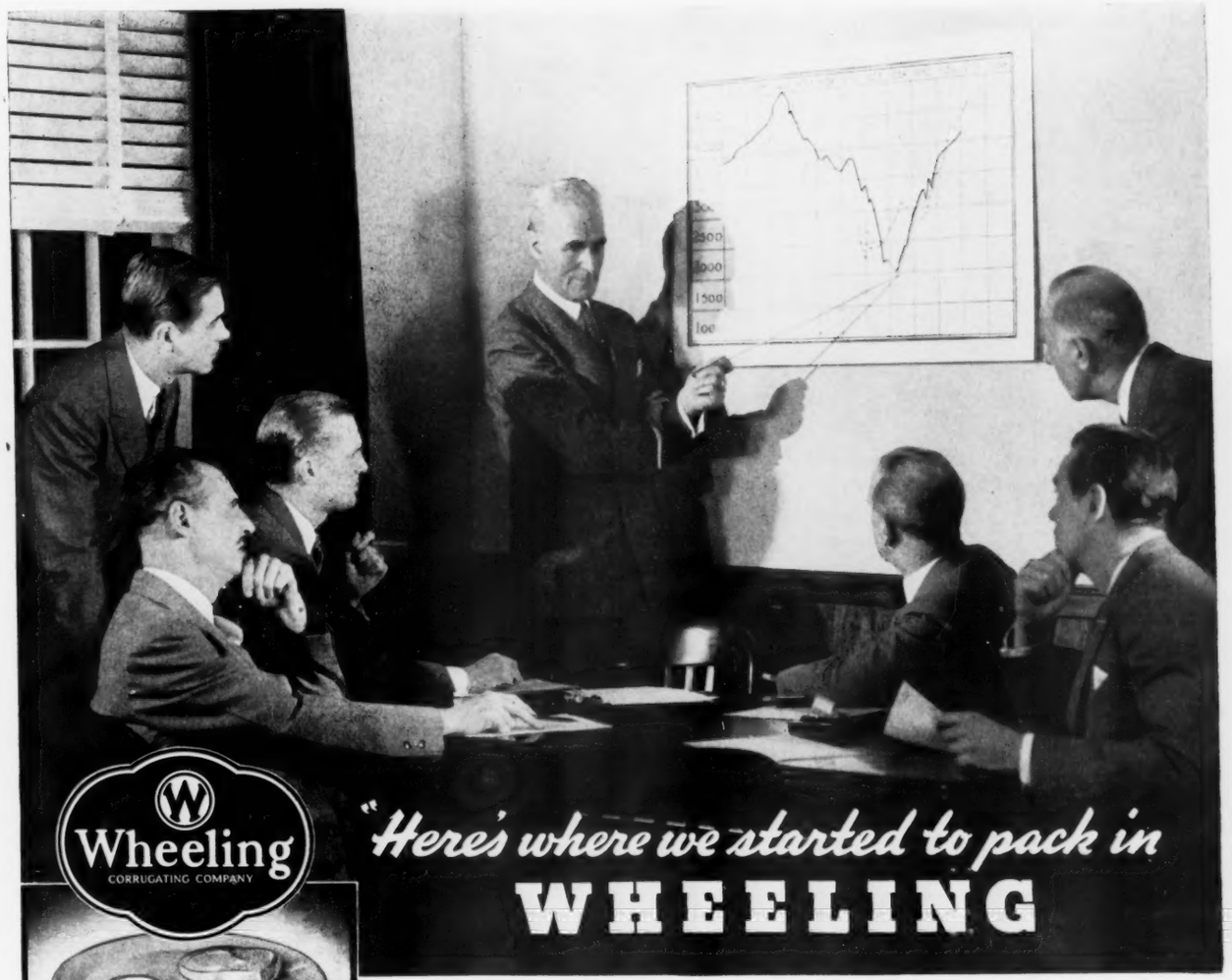
It uses a 2-in. diameter shaft having bearings fitted with .0015 in. oil clearance and .005 in. end play, which is considered normal and ideal for this size shaft. Volume of oil leakage was then accurately determined for these conditions.

With the oil clearance increased to .003 in. and the end play to .010 in., a condition representing the maximum in acceptable wear, the oil throw-off increased 5 times. When the oil clearance was increased to .006 in., the oil throw-off increased 25 times that of normal.

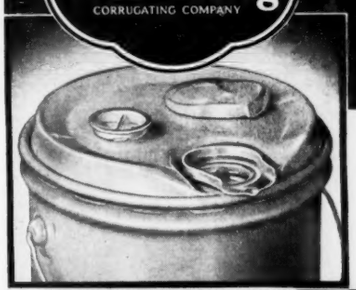
It is pointed out that pistons and rings are designed to control a certain amount of oil, but when excessive wear or other conditions cause up to 25 times the normal amount of oil to be handled and disposed of by the pistons, rings, breather and other parts, oil consumption rises sharply.

High-operating speeds place a heavy demand on the oil supply, requiring much more oil than the average motorist realizes and necessitating an unobstructed flow of clean lubricant. Under heavy loads in engines with loose bearings, the oil supply may be inadequate

Fig. 7—Dirty, abrasive oil, acting as a grinding compound, has accelerated wear along the lower side of this tin-base babbitt bearing. With continued operation, this bearing would have failed in a short time, according to bearing engineers



Wheeling
CORRUGATING COMPANY



"Here's where we started to pack in
WHEELING
Steel CONTAINERS"

● Sales react quickly when the trade learns that your product includes the last word in safe, convenient packaging. Wheeling Steel Containers—available in 1- to 70-gallon capacities—will give your product the ultimate in utility, accessibility, and security. Among our many items, we are sure to have the right container, with the right closure—and at the right price. Tell us what you pack, and we'll gladly submit samples.

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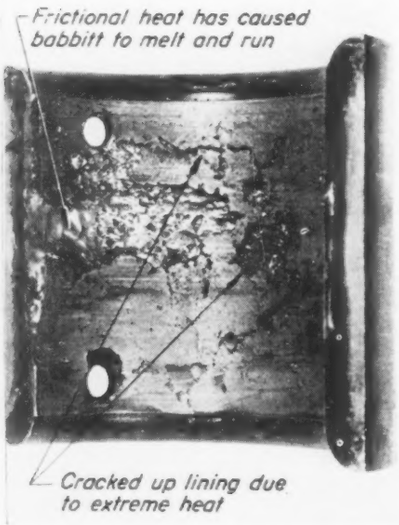

Fig. 8—Failure of the oil supply caused this bearing to fail. This does not necessarily mean there was no oil in the crankcase. Accumulations of oil sludge or other contaminants, resulting in clogged oil pump screens and oil passages, may have prevented adequate supply of lubricant to the bearing surface

for the enlarged clearances, especially with very light oils.

Closely aligned with the need for a good quality, uncontaminated oil for engine bearing lubrication, is the importance of lubricating the various chassis points at regular intervals. Car makers are practically agreed that the bushings at these points require lubrication every 1000 miles.

Much has been done in recent years, by the use of oil and dust seals and improved types of bushings to keep contaminants out and lubricants in for longer operating distances. But road tests prove that summer speeds and temperatures, combined with road pounding, make lubrication of chassis points every 1000 miles important if wear is to be minimized.

In cars not so many years old, these tests show steering and riding performance may be impaired by loss of lubricant in a few hundred miles of travel.

Insufficient lubrication at these points, or lubricants contaminated by dust and dirt, cause excessive wear and result in poor mechanical conditions which may not be immediately recognized by the car owner. These include a looseness in the assembly—affecting steering, riding comfort and tire wear.

Service managers of car dealers emphasize the importance of proper and frequent lubrication—at 1000 mile intervals—of bushings in the modern independent front wheel suspensions. Satisfactory performance of these suspensions depends on a continued close fit between the bushings and pins, with excessive wear at any point likely to affect adjustment of the assembly.

Road Tests Demonstrate Need For Change Every 1000 Miles

"All our experience indicates that for average drivers an oil drain every 1000 miles, and at least once a month in cold weather, is a good rule to follow in order to avoid the not uncommon 100 miles per quart of motor oil experience when good motor oil is allowed to become good grinding compound through contamination."

This statement was made by Dr. Thomas G. Delbridge, manager of Atlantic Refining Co.'s research and development department, in a report on a 1,000,000 mile road test recently made by Atlantic in Florida.

He said that after being driven approximately 110,000 miles each, average cylinder wear in cars lubricated with the company's new motor oil was less than one-tenth the amount considered normal for such mileage—.0008 in. compared with a normal expectancy of .011 in.

Average piston wear was only 10% of the normal expectancy—.0006 in. as against a normal of .006 in. Average wear on piston rings, as measured by increase in ring gap, was .017 in. against a normal expectancy of .120 in., 14% of what might be expected.

Discussing the question as to how often oil should be drained, in the light of these experiences, Dr. Delbridge said:

"If the only factors involved were a clean motor, clean air and the new Atlantic motor oil, an oil drain at 5000 or even 10,000 miles would be indicated. But no matter how chemically stable a motor oil may be, no matter how high its film strength, no matter how great its ability to reduce friction and wear, the oil is used in a crankcase into which comes road dust, products of fuel combustion that get past the rings in minute quantities, and fine particles of metal from various engine parts."

In pointing out that the road test experience indicates average drivers should drain every 1000 miles—and once a month in cold weather, he said: "These foreign materials in the oil, if allowed to accumulate, turn a lubricating oil into a grinding compound and wear is bound to result."

The Florida road test was made with a fleet of low-priced stock cars, representing the makes of 3 manufacturers. Each car was driven approximately 1000 miles a day, at an average speed of 50 miles per hour, 7 days a week, for over 100 days.

Marketers Association Urges Lubrication Every 1000 Miles

In an article, titled "Follow Through, Oil Men—Let's Promote More Oil Drains", the June number of Illinois Petroleum Marketers Assn.'s publication states:

"The petroleum industry nationwide is making an earnest effort to revive interest among motor vehicle owners in the practice followed years ago in having oil drains made periodically. The American Petroleum Institute has set up a new Lubrication Committee solely for this purpose, and every oil marketer should co-operate toward the end of making the work of the Committee effective.

"Every oil marketer can remember when automobile owners accepted as a matter of routine the draining of the crank case of their cars every 500 miles and refilling with new oil to protect the motor and lengthen its life of operation. Then with improvement of motors, automobile manufacturers started telling the public that an oil drain was necessary only every 1,000 miles.

"Like the trend of competition in business, motor manufacturers started enlarging upon their competitors' claims, with recommendations for oil drains stepped up to 2,000 miles, 3,000 miles, 5,000 miles, and some even have

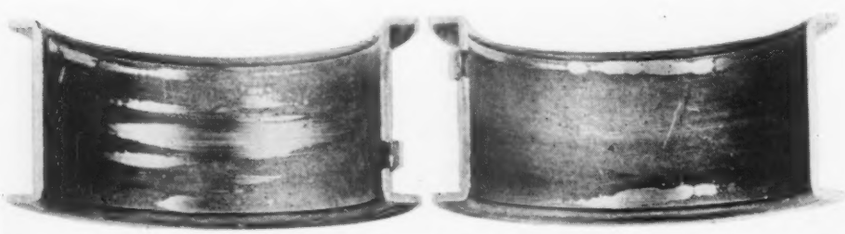

Fig. 9—Cadmium-alloy bearings attacked by acids which may be formed even in good lubricating oils at excessively high-operating temperatures. Corrosion is shown by the dark areas, which are rough and blackened. The rotating shaft rubbed off some of the high spots to make the light areas

MOST POWER
when it's *most needed*

CHEVROLET TRUCKS
With Valve-in-Head Engines Have Maximum Power at *Usable* Speeds

Chevrolet trucks lead in sales because so many truck users are convinced that Chevrolets are the best buy. That is, Chevrolet trucks lead because they have the most desirable balance of power, economy and durability—power to do the job well, economy to do the job at low cost, durability to stay on the job.

Chevrolet trucks owe their superiority in power, economy and durability largely to the fact that they have Valve-in-Head engines. That's why the Chevrolet truck engine excels others of its size—and even larger and costlier engines—in that most important of all truck engine qualities: *high pulling power, or torque, at low engine speeds.*

You don't have to "race your engine" when you need a lot of pulling power in a Chevrolet. This Valve-in-Head engine develops its top torque of 168 lb. ft. at only 1100 r.p.m.—a greater maximum torque than a larger "8" develops when whirling at 2000 r.p.m., and only 2 lb. ft. less than the maximum that a still larger and much costlier "8" develops when spinning at 2100 r.p.m. Highly important to the truck user also is another advantage of the Chevrolet Valve-in-Head design, the fact that this engine develops high torque over an extraordinarily wide range of engine speeds—160 lb. ft. or more all the way from only 600 r.p.m. up to 2000 r.p.m.

That's power for you—high power at low engine speed—maximum power at usable road speed—*most power when you need it most.*

Valve-in-Head means Ahead in Value

When you have to *race* an engine to get top power, fuel and oil costs go up and engine life is shortened. That explains why the Chevrolet Valve-in-Head engine, besides giving the most power when it is most needed, surpasses also in economy and in durability. Remember—*Valve-in-Head means Ahead in Value.*

CHEVROLET MOTOR DIVISION, *General Motors Sales Corporation*, DETROIT, MICHIGAN

gone so far as to disclaim any need of oil draining throughout the life of the car. Every oil man and motor vehicle engineer knows that lubricating oil loses its lubricating value by constant use.

"Too, automobile motors are today built to operate at a higher degree of heat, thus breaking down the lubricating value much more rapidly than in the old days of low-speed motors. The claims of automobile manufacturers that oil drains need be made only every 2,000 or 3,000 miles or even omitted during the life of the car have not been brought about by good common sense, but are simply sales propaganda instigated by motor manufacturers in their selfish endeavors to enlarge upon the claims of their competitors and thus interest prospective car buyers in the economical operation of their particular make of car.

"While all this propaganda program was going on, the petroleum industry sat idly by taking it on the chin as far as lubricating oil sales were concerned and never lifted a finger to refute the erroneous publicity being put out by motor manufacturers.

"Engineers of the automotive industry have now come to realize the error of their Sales Departments in this matter of recommending oil drains every 2000, 3000 or 5000 miles. They know well that the life of an automobile and its efficiency of operation depends to a very large extent upon the lubricating value of the oil in the crank case, and so the trend of sales propaganda among automobile manufacturers has begun to reverse itself.

"Many manufacturers are now recommending oil drains at least every 2000 miles. In that the petroleum industry may regain the lost market for oil drains, oil marketers should follow through with the movement now under way to educate motor vehicle owners in the importance of periodical oil drains not to exceed every 2000 miles, or better still, every 1000 miles, for it is human nature for many automobile owners to neglect this detail of their car unless reminded.

"Oil drains are profitable, and it stands every oil marketer in good stead to encourage this worthy movement now being sponsored by the Lubricating Committee of the American Petroleum Institute as well as some motor manufacturers to educate the motoring public to drain crank case oil regularly."

Government's Service Station Contracts Run Higher than Current Retail Prices

WASHINGTON

The 1940 heavy-consuming season for motor fuel has opened with gasoline stocks at an all-time peak for this time of the year, yet many of the major oil companies apparently expect an improvement in retail prices—or at least, they appear unwilling to gamble on lower prices over the next 12 months.

This is indicated by an analysis of maximum prices in bids of oil companies awarded contracts by the Treasury Procurement Division for supplying gasoline, motor oils, accessories and services at service stations throughout the U. S. Maximum prices in the contracts are generally higher than current retail prices. This is the first time that the TPD has awarded contracts covering the consolidated requirements of federal agencies for service station deliveries. Up to now, the TPD has confined itself to tank car and tank wagon contracts.

The TPD service station contracts, running from July 1, 1940 to June 30, 1941, which were awarded recently, include the "furnishing of accessory equipment and emergency replacement of accessories that are normally available to the traveling public at service stations, such as lubricating services and the lubricants required therefore, alcohol or anti-freeze, tire or tube repairs, cleaning of air and other filters, washing of vehicles and battery service".

Under the terms of the contract, gasoline, services and accessories may be sold to accredited government employes by stations directly operated by the companies receiving the award and also by their dealers.

Oil companies awarded TPD service station contracts, issue identification cards to be used in purchasing under government contracts. Cards are to show the Treasury Department Procurement Division contract number and the tag number of the motorized equipment for which it has been issued.

Each sale of products or services must be accompanied by a delivery ticket showing: name and address of station; date; brand name; quantity; unit price with extended total price for each commodity furnished, listed separately; license of vehicle; signature of individual making purchase; and name and address of government activity to which invoices are to be forwarded for payment.

According to one company awarded a TPD contract, its dealers servicing government vehicles under the contract can turn the sales receipts over to the company for full credit. The company does not make a collection charge for services sold by its dealers.

Contracts for supplying gasoline and motor oil are based on the service station's price at the time of purchase (unless the station price exceeds the maximum specified in the contract). On prices for lubrication, tires and other services, the contract schedule states: "The price to be paid shall not exceed the prevailing price in effect at the time and place where the accessory service was rendered, less applicable discount". (This discount mentioned in the schedule is merely the usual cash discount for payment within specified time, and does not represent a discount off the customary price charged by the station, according to an official of one company awarded a TPD contract.)

No maximum prices are set in the contract for accessories or services. However, when the local service station price for gasoline or motor oil is higher than the maximum in its supplying company's contract with the TPD, that maximum will be the purchase price for the government.

Asked if his company intended to make up the difference between the dealer's normal selling price and the company's contract maximum, if the contract price happened to be lower, an executive of one company receiving an award, replied: "Absolutely not." He pointed out that by virtue of the company's signing the contract, the dealer will be able to get business which he ordinarily would not receive. But he emphasized that the company will not protect its dealer's price margin. He pointed out that dealers of the company are not bound by the company's contract with the TPD, and if the station's price is higher than the maximum in the company's contract, the dealer can refuse to sell to the government purchaser.

However, oil companies, in the main, are protecting their dealers by the maximum prices specified in their contracts, which are generally higher than prevailing retail prices today, thus allowing for a tankwagon price advance without it coming out of the dealer's margin.

Maximum prices in the service station contracts generally range about 3c above indicated retail prices prevailing in principal cities in each of the 48 states (and this is a conservative estimate because NPN calculated the cur-

National Petroleum News Launches Intensive Lubrication Campaign!

To stimulate increased lubrication activity at service stations throughout the country, National Petroleum News is sponsoring an aggressive editorial drive featuring the slogan, "For Safety's Sake, Lubricate Every 1000 Miles This Summer." This hard-hitting campaign should be productive of much new lubrication business in the immediate future.

See Page 25 For Further Details!

Cash In!

Give your customers the extra protection of HEAT-PROVED motor oils!

IF you're one of the profit-minded distributors and jobbers who handle Cities Service and Koolmotor Oils, you'll be in a particularly good position to cash in on this lubrication drive. You'll be able to offer your customers extra protection because these two motor oils are ***heat-proved***. That means that both Koolmotor and Cities Service Motor Oils have been subjected to higher degrees of heat at the refinery than they ever will have to bear as an engine lubricant. When you beat the heat, you beat ***wear***. So be sure to take advantage of this increased lubrication opportunity by featuring these heat-proved motor oils that give your customers ***longer*** protection and ***better*** protection, too! If you're not already handling these oils, sign up with your nearest Cities Service office right away.

CITIES SERVICE OIL COMPANIES

CITIES SERVICE OIL COMPANY — Chicago, New York, Cedar Rapids, Boston, St. Paul, Grand Forks, Kansas City, Fort Worth, Oklahoma City, Milwaukee, Cleveland, Detroit, Syracuse, Harrisburg.

CITIES SERVICE OIL COMPANY, LTD. — Toronto, Ontario.

ARKANSAS FUEL OIL COMPANY — Shreveport, Little Rock, Jackson, Birmingham, Atlanta, Charlotte, Nashville, Richmond, Miami.

rent retail prices by adding 4c to dealer tankwagon prices, whereas dealer margins are less than 4c in many sections). In some states, however, the bidder quoted the same price as retail prices now prevailing.

While the maximum prices in the service station contracts averaged about 3c above current retail prices (that is, tank wagon price plus 4c margin), there were instances of where the maximum price was more than that above present prices. For example, The Texas Co.'s maximum price for the state of Texas was 17.5c which is 7.5c higher than "tankwagon plus 4c" in San Antonio, 8.5c above that in Dallas and 6c above Houston.

As a general rule, maximum prices in contracts for the West are not as high above current service station prices, as are awards in the East.

For example, maximum prices in service station awards in Arizona, California, Utah and Washington range from the current station price to 1.5c above these prices. These comparisons were made only for the larger cities.

The following figures show an approximate comparison of TPD contract maximums with current service station prices in some other states:

State	Range above current retail
(Based on tankwagon plus 4c)	
Florida	3.50 to 4.50
Michigan	4.10 to 6.80
New York	3.30 to 5.50
Mississippi	3.50 to 4.50
Tennessee	3.50 to 5.50
Vermont	3.60 to 4.70
Illinois	1.20 to 5.30
Indiana	1.30 to 3.20
Kentucky	3.50 to 6.00
New Hampshire	2.30 to 7.00
Maine	4.90 to 6.90

In 27 out of 48 states, the spread between regular and premium gasoline was held at 2c in the maximum prices in the contracts.

In Arizona, California and Nevada, contractors set a maximum of 3c between regular and premium, while 5 contractors in Washington kept the spread at 3c—The Texas Company quoting a 2c spread between the 2 grades.

In 12, mostly Mid-Western states, Phillips Petroleum Co.'s contract placed a spread of 1.5c between regular and premium, while E. D. Priddy & Sons of Waco, Tex., had a spread of 1c between regular and premium in Texas.

Maximum prices for supplying government vehicles with motor oil ranged generally from 25c for the "regular" grade to 30c for the "premium" grade.

In the contract schedule, the TPD defines "regular" and "premium" grades of lubricating oil as the contractors regular quality, premium or non-premium grade currently sold to the public. Grades range from SAE 10 through SAE 50.

Schedule of Contracts—Service Station Delivery Motor Fuel (Gasoline) and Lubricating Oil July 1, 1940 to June 30, 1941

Following is the complete schedule of maximum prices in contracts to supply gasoline and motor oils as awarded recently by the Treasury Procurement Division.

Awards are for supplying government vehicles with motor oils and gasoline through the service station at its posted price, subject to maximum prices for gasoline and oil as listed below. Under the new TPD contract, service stations may also supply government motor vehicles with lubrication and other services, and accessories.

CONTRACTOR	Total Number Stations in State	Motor Fuel Max. Price Per Gal. Regular	Motor Fuel Max. Price Per Gal. High Test	Lubricating Oil Maximum Per Qt. Regular	Lubricating Oil Maximum Per Qt. Premium
ALABAMA					
Standard of Kentucky	1411	$0.155	$0.175	$0.24	$0.34
The Texas Co.	481	.165	.185	.25	.30
ARIZONA					
Shell Oil Co., Inc.	302	.165	.195	.24	.29
Signal Oil Co.	30	.15	.18	.24	.29
Standard of California	422	.15	.18	.24	.29
The Texas Co.	312	.15	.18	.25	.30
Union Oil Co. of Cal.	200	.15	.18	.14	.24 / .29
ARKANSAS					
Phillips Petroleum Co.	240	.145	.16	.20[5]	.25[5]
Standard of Louisiana	778	.165	.185	.30	.40
The Texas Co.	208	.175	.195	.25	.30
CALIFORNIA					
Shell Oil Co.	2697	.14	.17	.24	.29
Signal Oil Co.	662	.14	.17	.24	.29
Standard of California	4350	.14	.17	.24	.29
The Texas Co.	1458	.14	.17	.25	.30
Tide Water Assoc. Oil Co.	2460	.14	.17	.24	.29
Union Oil Co. of Cal.	3409	.14	.17	.14	.24 / .29
COLORADO					
Phillips Petroleum Co.	239	.165	.18	.20[5]	.25[5]
The Texas Co.	530	.175	.195	.25	.30
CONNECTICUT					
Colonial Beacon Oil Co.	333	.155	.175	.30	.40
The Texas Co.	438	.165	.185	.25	.30
DELAWARE					
Standard of New Jersey	90	.145	.165	.30	.40
The Texas Co.	124	.155	.175	.25	.30
DISTRICT OF COLUMBIA					
Standard of New Jersey	115	.145	.165	.30	.40
The Texas Co.	55	.155	.175	.25	.30
FLORIDA					
Standard of Kentucky	1933	.15	.17	.24	.34
The Texas Co.	590	.16	.18	.25	.30
GEORGIA					
Standard of Kentucky	1732	.155	.175	.24	.34
The Texas Co.	780	.165	.185	.25	.30
IDAHO					
Shell Oil Co.	258	.17	.19	.24	.29
Signal Oil Co.	25	.19	.21	.24	.29
Standard of California	332	.19	.21	.24	.29
The Texas Co.	286	20	.22	.25	.30
Union Oil Co. of Cal.	104	.17	.19	.14	.24 / .29
Utah Oil Refg. Co.	187	.165	.18	.24	.34
ILLINOIS					
Phillips Petroleum Co.	2286	.146[3]	.161[3]	.20[5]	.25[5]
Standard of Indiana	3686	.158	.178	.21[6]	.26[6]
The Texas Co.	2059	.175[4]	.195[4]	.25	.30
INDIANA					
Phillips Petroleum Co.	846	.157	.172	.20[5]	.25[5]
Standard of Indiana	2287	.155	.175	.20[6]	.25[6]
The Texas Co.	1387	.165	.185	.25	.30
IOWA					
Phillips Petroleum Co.	1236	.146	.161	.20	.25
Standard of Indiana	1872	.150	.170	.20	.25
The Texas Co.	629	.155	.175	.25	.30
KANSAS					
Phillips Petroleum Co.	775	.137	.152	.20[5]	.25[5]
Standard of Indiana	1349	.142	.162	.20[6]	.25[6]
The Texas Co.	484	.145	.165	.25	.30
KENTUCKY					
Phillips Petroleum Co.	142	.155	.17	.20[5]	.25[5]
Standard of Kentucky	964	.155	.175	.24	.34
The Texas Co.	833	.165	.185	.25	.30
LOUISIANA					
Standard of Louisiana	869	.16	.18	.30	.40
The Texas Co.	393	.17	.19	.25	.30
MAINE					
Colonial Beacon Oil Co.	280	.172	.192	.30	.40
The Texas Co.	465	.185	.205	.25	.30
MARYLAND					
Standard of New Jersey	507	.1605	.1805	.30	.40
The Texas Co.	463	.17	.19	.25	.30
MASSACHUSETTS					
Colonial Beacon Oil Co.	730	.191[2]	.211[2]	.30	.40
The Texas Co.	979	.18	.20	.25	.30
MICHIGAN					
Phillips Petroleum Co.	463	.173	.188	.20[5]	.25[5]
Standard of Indiana	3135	.165	.185	.25[6]	.30[6]
The Texas Co.	936	.175	.195	.25	.30
MINNESOTA					
Phillips Petroleum Co.	1031	.162	.177	.20[5]	.25[5]
Standard of Indiana	1874	.158	.178	.20[6]	.25[6]
The Texas Co.	820	.17	.19	.25	.30
MISSISSIPPI					
Standard of Kentucky	800	.155	.175	.24	.34
The Texas Co.	276	.165	.185	.25	.30
MISSOURI					
Phillips Petroleum Co.	2107	.143	.158	.20[5]	.25[5]
Standard of Indiana	2450	.142	.162	.20[6]	.25[6]
The Texas Co.	808	.155	.175	.25	.30

(Continued on page 38)

SURE – give away a lot of things . . .

BUT...

sell the Motor Oils they want

TOO BAD, BUD. He liked your free service *but not your oil.* And he's off somewhere else to get it changed.

You may have lost a grease job too — or some other important sale. Because this motorist is one of those particular fellows who prefer and get the best of everything.

What oil did he want? Emblem Pennsylvania. He's one of the vast majority (82%) who have a definite preference for this superior lubricant.

Don't let these customers get away from you! They not only build up your oil-to-gas ratio but they help you raise the general level of all your sales. For example, dealers who have recently switched to emblem Pennsylvania report increases on gas sales as high as 50%.

Get in touch with us for further information. Talk with one of our field representatives, or write to headquarters.

MEMBER OF PENNSYLVANIA GRADE
Guaranteed
100% PURE
PENNSYLVANIA
OIL
CRUDE OIL ASSOCIATION
PERMIT NUMBER
Made from
the highest grade crude oil in the world
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TRADEMARK REGISTERED U.S. PATENT OFFICE

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION
OIL CITY, PENNSYLVANIA

BETTER OILS FROM THE GROUND UP!

Schedule of Contracts—Service Station Delivery Motor Fuel (Gasoline) and Lubricating Oil July 1, 1940 to June 30, 1941

	Total Number Stations in State	Motor Fuel Max. Price Per Gal. Regular	Motor Fuel Max. Price Per Gal. High Test	Lubricating Oil Maximum Per Qt. Regular	Lubricating Oil Maximum Per Qt. Premium
MONTANA					
Home Oil & Refg. Co.	125	.16	.18	.24	.34
Shell Oil Co.	207	.175	.195	.24	.29
The Texas Co.	387	.175	.195	.25	.30
Yale Oil Corp.	200	.165	.18	.27	.32
NEBRASKA					
Phillips Petroleum Co.	523	.158	.173	.20[5]	.25[5]
The Texas Co.	339	.165	.185	.25	.30
NEVADA					
Shell Oil Co.	119	.165	.195	.24	.29
Signal Oil Co.	13	.165	.195	.24	.29
Standard of California	225	.165	.195	.24	.29
The Texas Co.	81	.165	.195	.25	.30
Union Oil Co. of Cal.	108	.165	.195	.14	{.24 .29
NEW HAMPSHIRE					
Colonial Beacon	244	.169	.189	.30	.40
The Texas Co.	343	.18	.20	.25	.30
NEW JERSEY					
Standard of New Jersey	1739	.139	.159	.30	.40
The Texas Co.	819	.15	.17	.25	.30
NEW MEXICO					
Phillips Petroleum Co.	279	.165	No bid	.20[5]	.25[5]
E. D. Priddy & Sons	51	.13	.15	.25	.32
Standard of Texas	398	.17	.19	.24	.29
The Texas Co.	304	.175	.195	.25	.30
NEW YORK					
Colonial Beacon	2433	.164	.184	.30	.40
The Texas Co.	3003	.175	.195	.25	.30
NORTH CAROLINA					
Standard of New Jersey	1642	.188	.208	.30	.40
The Texas Co.	2050	.195	.215	.25	.30
NORTH DAKOTA					
Phillips Petroleum Co.	155	.226	..	.20	.25
The Texas Co.	612	.22[9]	.24[9]	.25	.30
OHIO					
Standard of Ohio	4500	.156[4]	.175[4]	.25	.35
The Texas Co.	1162	.165	.185	.25	.30
OKLAHOMA					
Phillips Petroleum Co.	1093	.14	.155	.20[5]	.25[5]
The Texas Co.	1079	.15	.17	.25	.30
OREGON					
Shell Oil Co.	823	.15	.18	.24	.29
Signal Oil Co.	189	.15	.18	.24	.29
Standard of California	931	.15	.18	.24	.29
The Texas Co.	532	.15	.18	.25	.30
Tide Water Assoc.	445	.15	.18	.24	.29
Union Oil Co. of Cal.	596	.15	.18	.14	{.24 .29
PENNSYLVANIA					
Standard of Pennsylvania	2232	.155	.175	.30	.40
The Texas Co.	1554	.165	.185	.25	.30
RHODE ISLAND					
Colonial Beacon	133	.148	.168	.30	.40
The Texas Co.	172	.16	.18	.25	.30
SOUTH CAROLINA					
Standard of New Jersey	800	.176	.196	.30	.40
The Texas Co.	537	.176	.196	.25	.30
SOUTH DAKOTA					
Phillips Petroleum Co.	250	.175	No bid	.20[5]	.25[5]
Standard of Indiana	740	.175	.195	.20[6]	.25[6]
The Texas Co.	407	175	.195	.25	.30
TENNESSEE					
Standard of Louisiana	1071	.185	.205	.30	.40
The Texas Co.	421	.19	.21	.25	.30
TEXAS					
Phillips Petroleum Co.	446	.14	No bid	.20[5]	.25[5]
E. D. Priddy & Sons	366	.13	.14	.25	.32
Standard of Texas	157	.16	.18	.24	.29
The Texas Co.	3737	.175	.195	.25	.30
UTAH					
Standard of California	217	.145	.165	.24	.29
The Texas Co.	153	.155	.175	.25	.30
Utah Oil Refg. Co.	293	.145	.16	.24	.34
VERMONT					
Colonial Beacon	164	.166	.186	.30	.40
The Texas Co.	375	.175	.195	.25	.30
VIRGINIA					
Standard of New Jersey	1397	.2325[3]	.2525[3]	.30	.40
The Texas Co.	1773	.205[3]	.225[3]	.25	.30
WASHINGTON					
Shell Oil Co.	1120	.15	.18	.24	.29
Signal Oil Co.	206	.15	.18	.24	.29
Standard of California	1484	.15	.18	.24	.29
The Texas Co.	690	.15	.17	.25	.30
Tide Water Associated	500	.15	.18	.24	.29
Union Oil of Cal.	885	.15	.18	.14	{.24 .29
WEST VIRGINIA					
Standard of New Jersey	643	.2285[3]	.2485[4]	.30	.40
The Texas Co.	418	.20[3]	.22[3]	.25	.30
WISCONSIN					
Phillips Petroleum Co.	658	.16	.175	.20[5]	.25[5]
Standard of Indiana	2542	.157	.177	.20[6]	.25[6]
The Texas Co.	973	.165	.185	.25	.30
WYOMING					
Shell Oil Co.	50	.205	.225	.24	.29
The Texas Co.	171	.205	.225	.25	.30
Yale Oil Corp.	75	.155	.17	.27	.32

[1] Add 3% for Illinois occupation retailers' sales tax.
[2] Includes 3c Massachusetts state gasoline tax for which tax exemption certificates will not be accepted.
[3] Includes 5c Virginia and West Virginia gasoline taxes, for which tax exemption certificates will not be accepted.
[4] Maximum prices for regular and high test grades quoted by Standard of Ohio for period from July 1 to Sept. 30, 1940, inclusive, are 12.5 and 14.5c per gallon respectively. For rest of contract period, maximum prices shown above apply.
[5] Prices in bulk. For deliveries in sealed cans, add 4c per quart.
[6] Prices in bulk. For deliveries in sealed cans, add 5c per quart.
[9] Prices do not include North Dakota state tax of 4c per gal. nor retail sales tax of 2%.

'Fill Your Bin' Now Government Advises (To Aid Coal Dealers)

N. P. N. News Bureau

WASHINGTON—The soft coal industry got the benefit of a "fill your bin now" drive by the Consumers' Counsel Division of Interior Department recently without emphasis of a "fill your tank now" spiel to oil industry consumers of fuel oil.

"Domestic and industrial consumers of bituminous coal can assist the national defense program and themselves by filling their winter fuel requirements now and during the later summer months," the division counseled in an article in the June issue of the Coal Consumers' Digest.

Pointing out that "customary summer prices for sized coals are in effect," division counseled that increased production and transportation needs under full-swing tempo of national defense program next fall may heavily burden the railroads to the possible detriment of coal shipments and even "temporary local scarcities in domestic sizes or particular qualities of coal."

The consumers' counselors said "no basis for a general sharp price increase is in sight" because present production capacity of more than 575,000,000 tons annually compares with a present consumption of less than 450,000,000 tons. Nevertheless, they counseled, "a tendency toward firmer prices may develop in the fall, although it should be neither general nor sharply above minimum prices set by the Bituminous Coal Division."

Power Alcohol Cost Cut by New Process

BUFFALO—A step closer to economic feasibility of alcohol-blended motor fuels was indicated at the 32nd semi-annual meeting recently of the American Institute of Chemical Engineers, when a new cheaper method for manufacture of absolute (water-free) alcohol was announced.

The new process employs ethyl ether which lowers the boiling point of residual water and enables its removal without taking any alcohol with it. This contrasts with the conventional method in which benzene is used and considerable alcohol is removed with the water. Less elaborate equipment and less steam for distillation are also features of the process, contributing to greater economy.

The process was developed jointly by T. O. Wentworth, Vulcan Iron and Supply Co., Cincinnati, and Dr. D. F. Othmer, Polytechnic Institute of Brooklyn.

ANOTHER MACK NEARS A MILLION MILES

NOT A PENNY FOR REPLACEMENTS IN THE PAST TWO YEARS

Just a few thousand miles short of a round 1,000,000 miles! That's the record of this rugged Mack being operated by the St. Johns River Line Company, Jacksonville, Florida. Mr. G. F. Thresher, President of the Company, tells you the story of this new member of the Mack-Million-Miler Club:—

GENTLEMEN: With reference to the purchase of a used Mack Model AB truck from your company on February 22, 1938, I am pleased to state that this truck has been in continuous service since the date of purchase and we have not spent any money for repairs during that time.

At the time of purchase I understood that this truck was purchased in February, 1929, by Mr. E. S. Smith, who is a contract hauler for the A. & P. Tea Company. I understood from Mr. Smith, with whom I am acquainted, that the truck had well over 900,000 miles on it at the time I purchased it. I have several other Macks in service which are approximately the same age, and which have given us similar service.

I also want to take this opportunity to express my appreciation for the services extended our company by your Jacksonville branch.

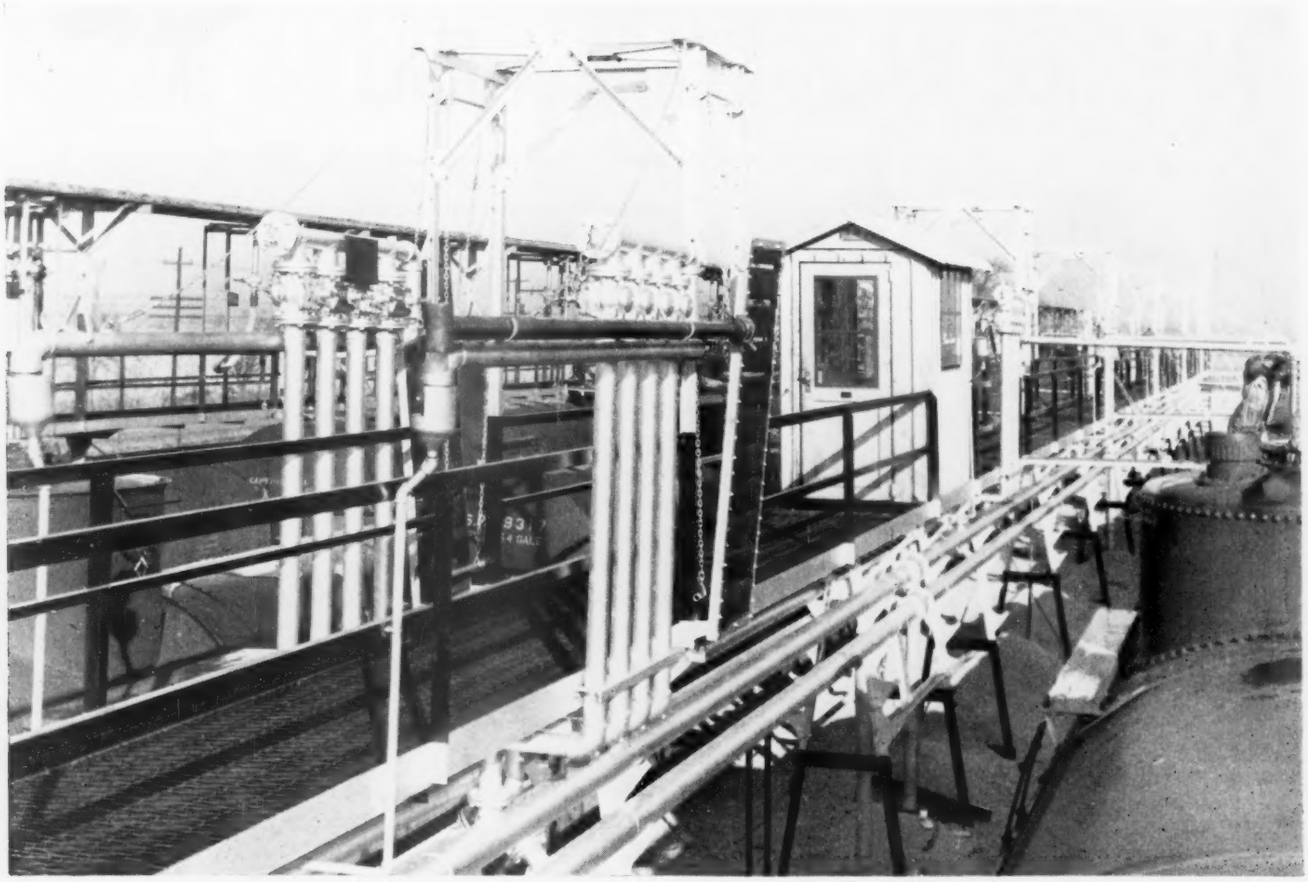
Very truly yours,
G. F. THRESHER
President

WHY MACK DEPENDABILITY AND ECONOMY "CAN'T BE BEAT"...

Mack's specialty—now as for 40 years—is building the finest trucks that can be built. Product of the largest research and engineering facilities in the world devoted exclusively to truck manufacture—Mack stands supreme in quality, dependability, and economy that *lasts*. MACK TRUCKS, INC., NEW YORK, N. Y.

THE MOST COMPLETE LINE OF TRUCKS IN THE WORLD— 1 TO 45 TONS *AND ALL "HEAVY-DUTY"!*

Mack



Great Lakes Pipeline Co.'s unique tank car loading rack at Kansas City, Mo. Details of this rack are described in accompanying article

New Tank Car Rack has Features Adaptable to Truck Loading Racks

INCREASED efficiency and safety in the loading of tank cars of gasoline, at the terminal of the Great Lakes Pipeline Co., at Kansas City, is secured by several construction features. The company's engineers say these features could be adapted to transport truck loading racks.

Method of Supporting Loading Lines—Supports for the main loading lines are part of the "A" frame which supports the loading rack platform. The sides of the frame are notched deep enough to hold the pipes, 4 notches to each leg of the frame. This permits stringing a total of 8 pipes under the walkway. In the foreground of the photograph, 2 lines of pipe are shown supported in this manner.

These pipe supports are bolted into the "A" frame about 4 ft. above the concrete foundations on which the feet of the frame rest. Thus, the lowest of the main loading lines is almost 6 ft. above the ground. This height permits workmen to move under the rack and facilitates keeping the area around the rack free from weeds and debris.

"Walkway" from the Platform to Tank Car—Each walkway (see middle foreground of photo) is hinged at the platform end and is long enough to reach to the small platform at side of tank car dome. Two small chains, fastened on each side of the small walkway, pass over pulleys in an angle iron frame built over the main walkway, and are attached to a small iron rod. The rod fits into notches on the sides of the angle iron frame.

A workman raises the small walkway into a vertical position by pulling on the iron rod and then fastens the walkway in that position by hooking the iron rod in the proper notches. Thus the walkway is in the clear when not in use and makes a gate in the side railing of the main platform of the loading rack.

When a tank car has been spotted, the workman lowers the walkway and hooks the iron rod into the proper notches to give the walkway the proper height to the platform on the tank car.

"Drain" for the Loading Line—Spaced at the proper distance from each group of loading lines is a funnel, connected to a 1-inch pipe. (See left foreground of photo). When a tank car has been loaded, the pipe is swung over so the end drains into the funnel any fluid left in the pipe after the filling operation. The drainings flow to a terminal sump tank. This eliminates the hazard from gasoline which might otherwise be spilt around the loading rack.

Aluminum Fill Pipe Sections—When the loading rack was first put into operation, the fill pipe section was brass. The use of dissimilar metal

In Your Back Yard

Superior - Nebr.

Rock Rapids - Iowa

Hutchinson Kans.

Gasoline is already flowing through the 260 mile Champlin pipeline extension from Superior, Nebraska to Rock Rapids, Iowa. It brings to the back door of middle west jobbers the complete Champlin line of Quality Petroleum products, available in quarts or trainloads.

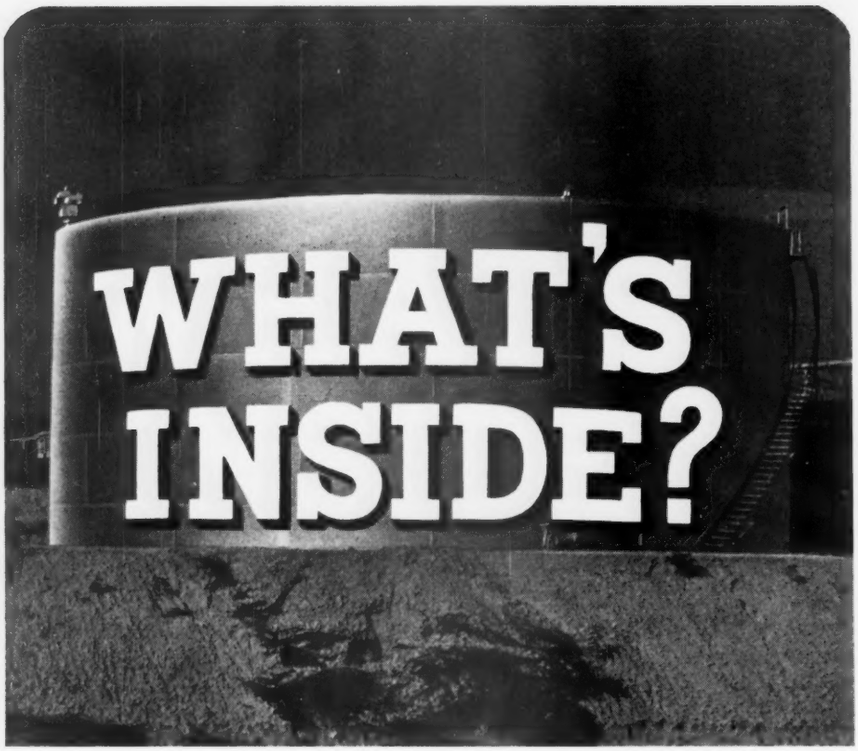
Rock Rapids terminal located on U. S. highway No. 75 is completely equipped with truck and tank car loading racks, office and warehouse, with complete lube stock ready for immediate distribution as well as 14,000,000 gallons refined products storage capacity. The same facilities are available at Superior, Nebraska, Hutchinson, Kansas terminals and at the Enid, Oklahoma refinery.

Get the complete Champlin story of Quality, Convenience and Dependability.

USE CHAMPLIN OILS

CHAMPLIN REFINING COMPANY

General Offices, ENID, OKLA.



Photograph by Robert Yarnall Richie

Only two people know—
You and General American

General American terminals give you the extra advantages of independent ownership. We know how to keep business confidences. Another reason why so many internationally known businesses have confidence in us. General American gives you all the privacy of your own terminal—completely safe—thoroughly modern, equipped for speed—without a penny's capital investment on your part. Join the world leaders who profit from General American Terminal Service.

Strategically located to serve you!

GATX GENERAL AMERICAN

GENERAL AMERICAN TANK STORAGE TERMINALS

Goodhope, La. and Westwego, La., (Port of New Orleans)
Corpus Christi, Texas
Carteret, N. J. (Port of New York) Galena Park, Texas (Port of Houston)

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORPORATION

eliminated the possibility of sparks from the contact of the fill pipe with the sides of the tank car opening. These brass sections were heavy to handle and became battered in use. The company then had the fill pipe sections made of aluminum, which provided a dissimilar metal but cut the weight of each fill pipe section to 13 lbs. It was also found that the aluminum sections stood up better in service than the brass.

Each fill pipe has a "T" at the lower end and reaches almost to the bottom of the tank car, thus securing under-surface loading which reduces the evaporation losses in the filling operation.

All loading pumps are operated by remote control. The manifold system at each tank car loading station is at the side of the small walkway, which puts the valves within easy reach of the workmen. The same features as at Kansas City are incorporated in other terminals of the Great Lakes Pipeline Co.

Jersey Standard Pays $193,400,000 Wages

N. P. N. News Bureau

NEW YORK—During 1939, Standard Oil Co. of New Jersey paid out $193,400,000 in wages to 132,113 employees in various parts of the world, according to summary of company's 1939 report, released June 30.

While 96% of New Jersey Standard's stock is held by residents of the United States, it was said that stockholders are scattered over 71 countries. Average holding of shares was 208, it was said.

The 130,778 holders of Jersey stock, were divided as follows: 61,147 men; 55,145 women; 10,604 estates and trustees; 948 corporations and companies; 258 banks and trust companies; and 1093 investment bankers and brokers.

Steve Bennett Opens New Barrel Plant

CHICAGO—A new steel barrel plant at Harahan, La., suburb of New Orleans, "Steve" Bennett, president of Bennett Manufacturing Co., Chicago, announces.

Russell Heads Oceco Sales

Murray Russell, Cleveland, was recently appointed sales manager of Oceco division of Johnston & Jennings Co. He will report to Hart H. Fleming, vice-president. For past 10 years, Mr. Russell, widely known in the oil industry, has been with Byron Jackson Co. at Bethlehem, Pa., New York City and Pittsburgh, Pa.

Oil's 'Preparedness' for War Today Compared with Position in 1917

PETROLEUM played a tremendously important and far-reaching part in the World War. In any present armed conflict, it would necessarily fill an even more vital role. Since 1918 both the Army and Navy have sprouted petroleum-powered wings at a rate undreamed of 20 years ago. Since 1918, the Navy, the Army's transport ships, and the merchant marine that would be drafted in the event of war, have become nearly 100% oil-burning. On land, increased mechanization and motorization of the Army today demands the use of petroleum in many forms. Nearly every operation of any of our armed forces now depends on an adequate supply of petroleum.

Close behind these fighting needs are the corollary increased demands that will necessarily be made by those industries that would have to be conscripted: transportation, and agriculture. War's insatiable appetite affects all industries and agriculture; they, in turn, all depend on petroleum products to keep their wheels turning.

Despite the tremendous pressure during the World War, the still young and then only partially developed petroleum industry met every demand of the United States and her Allies without faltering. The National Petroleum War Service Committee, manned by the industry's own executives, successfully mobilized every branch of the industry in 1917, and for more than a year and a half continually furnished an adequate supply of petroleum products, when and where they were needed.

Today, the capacity of the American petroleum industry easily is two to three times as great as it was in 1917, hence is that many times as ready to take its place in any mobilization for the national defense, when and if it is necessary. Indeed, in many branches of the industry, capacity since the World War has increased 8, 10, even 20 times.

The number of refineries, for example, has increased 134%, to 561 from approximately 240 in 1917. Their refining capacity has developed even more rapidly, reflecting the larger and more efficient units erected in the past few years; the daily throughput capacity of today's 561 petroleum refineries is approximately 4,600,000 bbls. of crude oil, an increase of 318% from 1917's meager 1,100,000 bbls. a day.

To supply these refineries, the industry's production division currently is producing in excess of 1,200,000,000 bbls. of crude oil annually, more than 3½ times as much oil as was produced in 1917. In the ground, we can count known crude oil reserves more than twice as great as we could see just before the war, yet in the interim, 18,000,000,000 bbls. of crude oil have been produced.

Because of the increased refinery capacity, and because of the development of new refining processes, that in 20 years have more than doubled the amount of gasoline manufactured from a barrel of crude oil, the production of motor fuel now is nearly 8 times what it was in 1917. Today's refineries, without operating at peak capacity, annually are turning out 22,000,000,000 gals. of motor fuel, up 686% from the 2,800,000,000 gals. produced in 1917. Production of lubricating oil has increased 75%, of fuel oils 190%.

In the production of aviation gasoline, recent technological advances by the refining branch of the industry have given the United States nearly a monopoly. We are the only nation in the world adequately equipped to furnish a huge, continuous supply of high-test fighting gasoline to our air forces.

Our stocks of finished gasoline now total 3,568,000,000 gals., 677% more than we had in storage at the end of 1917. Supplies of lubricating oil and of fuel oils also materially are higher, stocks of fuel oil currently amounting to 138,000,000 bbls., 10 times the 1917 stocks.

Mileage of interstate pipelines, bringing crude oil to the refinery and to tide-water, carrying gasoline from refinery to market, nearly have doubled. The number of tank ships owned by United States oil companies has increased to 450 from only 54 in 1914, and their capacity is nearly 20 times greater—3,000,000 gross tons compared with only about 150,000 gross tons in 1914. Since the average cruising speed of today's tank ships is much lighter than the average speed in 1914, this has the effect of again increasing the present capacity in comparison with 1914.

The industry today owns or uses 154,000 railroad tank cars, nearly 3 times as many as in 1917. The number of bulk distribution plants is 6 times as great, and there are 15 times as many service stations. The current 400,000 available outlets for motor fuel and lubricants is 16 times the 1917 number.

Tank trucks will form a vital link in our national defense in case of war, with armies becoming more and more mechanized. Number of tank trucks in U. S. estimated at over 100,000.

These, and other important changes since the World War, are listed in accompanying tabulation. For ready comparison, a series of index numbers also is given, with the 1917 capacity for each industry element considered as 100. These comparisons reveal instantly that every division of the industry is 2 to 3 times at least as able as in 1917 to furnish essential petroleum products for national defense.

THE indirect contributions of the petroleum industry to the national economy in the past 20 years also have made the nation better prepared than it was in 1917. The widespread use of the motor car, almost directly attributable to the adequate supply and low cost of the motor fuel provided by the petroleum industry, has made us a mobile people, a nation on wheels. Literally, every man, woman, and child in the United States, at the same instant could be in a motor car. Our passenger automobiles, with their complete destruction of regional and local insularity, have been essential in developing a new national unity, and and our motor trucks have become indispensable to the nation's distribution system.

The demand for adequate roads to serve the nearly 30,000,000 American-owned motor vehicles has sired two decades of intensive highway construction, giving us a nation-wide network of good roads that necessarily would play a vital part in the national defense. Petroleum made these roads necessary; petroleum, virtually alone, has financed their construction with

Advertising is Good. but why not DO something about it?

Women, especially mothers travelling with children, do appreciate the advertising of sanitary restroom service.

They realize that such advertising helps to raise the standards of cleanliness in all filling stations.

However they prefer to stop where ONLIWON* Toilet Seat Covers are provided, because they *know* that when a toilet seat has been used once it is no longer sanitary and this real protection is what they want.

It costs less than ¼ of 1c per customer to buy this preference—this insurance against complaints—this extra power to increase gallonage for your stations.

ONLIWON Toilet Seat Covers are extra large (17¾" x 20" for full protection) soft, white tissue that quickly disintegrates and is easily flushed. Dispensed only one at a time, just like nterfolded toilet paper—the most economical, convenient and foolproof method.

ONLIWON Cabinets protect the toilet seat cover supply from dust, contamination and handling. They can be refilled when partially empty; require only 5½" x 11⅛" wall space; baked white enamel surface is easily kept clean.

*Trade Mark ONLIWON Reg. U.S. Pat. Off.

● If your paper jobber does not handle ONLIWON Toilet Seat Covers write to A.P.W. Paper Company, Inc., Albany, N.Y.

ONLIWON

Interfolded Tissue

TOILET SEAT COVERS

Product of A.P.W. Albany, N.Y.

state, federal, and local gasoline tax payments, that since 1919, have totaled nearly $8,100,000,000.

European nations, whose armies rapidly are becoming more mobile, have recognized the importance of motor transport, and steadily have been augmenting their highway systems with purely military roads.

We, too, have a huge highway system, the best and the largest in the world. We have more motor vehicles —70% of the world's total. To supply them, as well as the Army, Navy, merchant marine, essential industry, and other transportation, with petroleum products in a national crisis, unquestionably would present a tremendous challenge to the petroleum industry. But the industry is ready, now as in the World War, to mobilize instantly under the direction of its leaders, and to assume its vital role in the national defense. And today, with capacity in all its branches increased 3, 5, 10 and even 20-fold, the American petroleum industry has far more than ever before to offer in the service of the nation.

Oil Industry Statistics in 1917 and Today

PRODUCTION

		Indexes
States Producing Oil in Commercial Quantities:		
1917	18	100
Currently	22	122
Number of Producing Wells:		
1917	197,000	100
Currently	350,000	178
Production of Crude Oil (Annual):		
1917, bbls.	335,000,000	100
Currently, bbls.	1,200,000,000	358
Production of Natural Gas (Annual):		
1917, cubic feet	795,000,000,000	100
Currently, cubic feet	2,400,000,000,000	302
Proved U. S. Crude Oil Reserves (Underground Storage):		
1915, bbls.	6,500,000,000	100
Currently, bbls.	17,348,000,000	267

REFINING

Number of U. S. Refineries:		
1917	240	100
Currently	561	234
Capacity of U. S. Refineries:		
1917, bbls. per day	1,100,000	100
Currently, bbls. per day	4,600,000	418
Crude Oil Processed Annually:		
1917, bbls.	315,000,000	100
Currently, bbls.	1,165,000,000	370
Index of Manufacturing Production: (On basis of 1923-25 equals 100)		
All Industry:		
1919	84	100
Currently	82	98
Petroleum Refining:		
1919	54	100
Currently	198	367
Production of Finished Gasoline:		
1917, gallons	2,800,000,000	100
Currently, gallons	22,000,000,000	786
Production of Natural Gasoline:		
1917, gallons	210,000,000	100
Currently, gallons	2,100,000,000	1,000
Average Yield of Gasoline from Crude Oil:		
1917, gals. per bbl.	9	100
Currently, gals. per bbl.	19	211
Production of Lubricating Oils:		
1917, bbls. annually	17,950,000	100
Currently, bbls. annually	31,000,000	173
Production of Fuel Oils:		
1917, bbls. annually	155,000,000	100
Currently, bbls. annually	450,000,000	290

STORAGE

Stocks of Finished Gasoline:		
1917, gallons	412,000,000	100
July 31, gallons	3,568,000,000	866
Stocks of Lubricating Oil:		
1917, bbls.	3,260,000	100
July 31, bbls.	7,179,000	220
Stocks of Fuel Oils:		
1917, bbls.	13,760,000	100
July 31, bbls.	138,261,000	1,005

TRANSPORTATION

Interstate Pipe Line Mileage:		
1917, miles	50,000	100
Currently, miles	95,000	190
Pipe Line Shipments:		
1917, bbls. annually	500,000,000	100
Currently, bbls. annually	1,000,000,000	200
U. S. Tankships:		
1914	54	100
Currently	450	833
U. S. Tankship Tonnage:		
1914, gross	150,000	100
Currently, gross	3,000,000	1,992
Railroad Tank Cars:		
1917	57,021	100
Currently	154,000	270
Railroad Shipments:		
1917, tons crude	5,500,000	100
Currently, tons crude	4,000,000	73
1917, tons ref. products	25,000,000	100
Currently, tons ref. products	60,000,000	240

DISTRIBUTION

Bulk Plants:		
1917	5,000	100
Currently	30,000	600
Service Stations:		
1917	15,000	100
Currently	225,000	1,500
Tank Trucks:		
1917	10,000	100
Currently	Over 100,000	1,000+
Available Outlets for Motor Fuels and Lubricants:		
1917	25,000	100
Currently	400,000	1,600

Standard Oil Indiana to Honor 1368 Employes

Employes of Standard Oil Co. of Indiana who have served 22,000 years —that is a combined total of 22,000 years—will be awarded gold service pins this year, Edward G. Seubert, president announced recently.

A total of 1368 employes are in line for these awards. Twenty will receive pins for 40 years of service; 82 for 30 years; 608 for 20 years; and 658 for 10 years.

Texaco Presents Famous Declaration

If American motorists do not own a copy of the Declaration of Independence, it is not the fault of the Texas Co.

A facsimile of the famous document may be obtained free at any Texaco station, company officials state. Reproduced on quality paper, with no advertising, this document is suitable for framing.

TRADEMARKS

Print and Label Copyrights And Changes Affecting Them

Under the new Act known as "Public Act, No. 244, Seventy-sixth Congress approved July 31, 1939", effective July 1, 1940, the registration of copyrights on commercial prints and labels was transferred from the jurisdiction of the Commissioner of Patents to the Register of copyrights. All labels and print files will be transferred to the Copyright Office, at the Library of Congress, as soon as possible.

The act required the Commissioner of Patents to return all applications pending at close of business June 30, 1940, relating to print and label registrations, together with the filing fees to the applicants, so they could be refiled under the new act.

There is no change in the amount of the filing fee, but the practice relating to the application itself differs materially from that previously in use by the Patent Office.

A print or label copyright runs for 28 years and may be renewed once for a similar period.

The protection afforded labels and prints under the copyright law, should not be confused with the registration of trade marks and many times it is advisable to copyright a label or print and register the trade mark separately as the copyright does not protect the trade mark specifically.

In order to copyright a label or print the copyright, notice must appear thereon at the time it is first published. Otherwise, the label or print is dedicated to the public, and a valid copyright cannot be obtained.

The law provides a copyright must be registered as soon as possible after the article is published with the said notice on it.

MOBILE, Ser. No. 427,173. Socony-Vacuum Oil Co. Inc., New York. Filed Jan. 5, 1940. For cleaning composition for automobile radiators, for sealing leaks in radiators, a composition for preventing corrosion in engine-cooling systems, lubricant for rubber shackles containing no oil or grease, and hydraulic brake fluids. Published May 14, 1940.

CADEL DIESEL ENGINE LUBRICANT, and a globe of the world, Ser. No. 414,048. Tide Water Associated Oil Co., San Francisco. Filed Dec. 20, 1938. For lubricating oil for motor diesel engines. Published May 14, 1940.

MARATHON BEST IN THE LONG RUN and picture of a runner, Ser. No. 422,518. The Ohio Oil Co., Findlay, Ohio. Filed Aug. 11, 1939. For motor oil, kerosine, lubricating oils and greases, fuel oil. Published May 14, 1940.

CIRCULITE, Ser. No. 430,992. W. H. Barber Co., Minneapolis. Filed April 20, 1940. For anti-freeze solution. Published June 11, 1940.

FREEZITE, Ser. No. 430,993. W. H. Barber Co., Minneapolis. Filed April 20, 1940. For anti-freeze solution. Published June 11, 1940.

FYRE-FLY, Ser. No. 430,994. W. H. Barber Co., Minneapolis. Filed April 20, 1940. For household insect spray. Pub. June 18, 1940.

DETROL, Ser. No. 429,724. The Universal Motor Oils Co., Wichita, Kans. Filed March 18, 1940. For liquid fuels, particularly fuel

DAN, THE RUBBER MAN, SAYS:

● RUGLYDE penetrates the tightest fittings . . . furnishes a tough, viscous film that lubricates and preserves. Contains 'dag Colloidal Graphite. Lasts the life of a lube job. Non-flammable, non-poisonous. Won't harm the finest lacquers. Approved by leading oil companies Sold in 8-ounce refillable dispensers and gallons.

For rubber door seals, hood lacings, and other parts requiring surface lubrication — use DOOR-EASE Stainless Stick Lubricant. Won't soil clothing or upholstery. Won't harm rubber or car finish.

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oils, liquid motor fuels and gasoline. Pub. June 18, 1940.

MOPAR, Ser. No. 430,487. Chrysler Corp., Highland Park, Mich. Filed April 8, 1940. For lubricating oils. Pub. June 18, 1940.

VARCON, Ser. No. 430,597. Gamble Stores, Inc., Minneapolis. Filed April 10, 1940. For lubricating oils and greases. Pub. June 18, 1940.

TAPS, Ser. No. 430,700. Standard Oil Development Co., Linden, N. J. Filed April 12, 1940. For lubricating oils. Pub. June 18, 1940.

PARAPRIDE, Ser. No. 430,722. The Canfield Oil Co., Cleveland. Filed April 13, 1940. For lubricating oils. Pub. June 18, 1940.

Design showing an ellipse formed by 16 small cogs, Ser. No. 430,952. Famous Lubricants, Inc., Chicago. Filed April 19, 1940. For lubricating compounds. Pub. June 18, 1940.

TAPS, Ser. No. 430,699. Standard Oil Development Co., Linden, N. J. Filed April 12, 1940. For inhibitor employed in motor oils to decrease their corrosiveness to bearing metal and to lessen their tendency to stick rings, form sludge or otherwise deteriorate as the result of oxidation. Published June 25, 1940.

STRIXE, Ser. No. 430,716. W. H. Barber Co., Minneapolis. Filed April 13, 1940. For household insect spray. Published June 25, 1940.

Fires, Explosions Leading Causes Of 1939 Accidents

NEW YORK—A review of 1939's fatalities shows that fires and explosions were the leading causes.

In this report by American Petroleum Institute's Department of Accident Prevention, it was stated: "According to a study of 89 fatalities concerning which information has been received for 1939, 45% of the deaths were caused by falls, falling objects, drowning, and other miscellaneous causes; 35% were due to fires and explosions; 16% involved trucks or automobiles; and 4% were from electrical contacts."

This survey is based upon accident reports from 105 companies employing 186,268 workers. In the marketing departments of these companies, there were 16 accidents in 1939, compared with 15 in 1938 and 21 in 1937. Eight of marketing's 1939 fatalities were caused in traffic.

Seat Cover Sales

Seat covers are expected to be the greatest single accessory item sold during this summer's increased tourist travel, according to J. H. Otis, parts and accessories manager of Pontiac Motor division.

Other accessory items, marked for increased sales are cushions, radios, gravel shields, auxiliary sun visors, and fog and sport lights.

Kerosine Price Cut

NEW YORK, July 8.—Effective July 2, Standard Oil Co. of N. J. reduced "Esso" kerosine dealer tank wagon price 0.3c to 7.7c per gal. "in the state of New Jersey," according to a company announcement.

MARKETS

Mid-Western

CHICAGO, July 6.—Gasoline demand began to show some signs of "coming back" late the past week, according to sellers in Chicago. The heavy shipments which preceded the increased federal tax filled the storage of many jobbers but much of this has already been exhausted, it was said. Some refiners reported demand for kerosine also had improved somewhat. Quotations for all refined products were reported unchanged.

Group 3 gasoline quotations reported by refiners ranged from 4.75 to 5.25c for 72-74 oct., 4.375 to 4.75c for 63-66 oct., and 4 to 4.25c for 60 oct. and below. Three tank car marketers quoted 4.125c, and two 4.25c for 72-74 oct.; two quoted 3.75c for 63-66 oct.; one quoted 3.375c, and two 3.50c for 60 oct. and below, FOB Group 3.

Refiners' kerosine quotations ranged from 3.875 to 4.25c for 41-43, and 4 to 4.625c for 42-44. Tank car marketers' quotations were 0.125 to 0.375c below refiners' lows, and ranged from 3.50 to 3.75c for 41-43 and 3.75 to 4c for 42-44, FOB Group 3.

Sales reported by two tank car marketers during the week totaled as follows: 2 cars of Ethyl gasoline at 4.625c; 4 cars 72-74 oct. leaded, 2 at 4.125c and 2 at 4.375c; 1 car 60 oct. and below at 3.50c, all FOB Group 3.

Pennsylvania

CLEVELAND, July 6.—The recent downward swing of cylinder stock and wax prices in western Pennsylvania was extended further the first week in July with the lubes off 1 to 2c a gal. and wax down 0.25 to 0.875c a pound. Kerosine also was off 0.125c in the lower districts. One bright spot in the market, refiner said, was the firmness of gasoline.

Lower field prices for 72-73 oct. gasoline were up 0.25 to 5.75c when several refiners reported boosting their quotations. One refiner who had been offering 72-73 oct. at 5.50c late in the week said he was offering 74-76 oct. at 5.75c. Other lower field quotations for 74-76 oct. were reported at 6c. Demand for gasoline was said to be "surprisingly good" in view of the heavy buying in advance of the federal tax increase.

Quotations reported for 25 pour test bright stock ranged from 14 to 15c, off 1c on the low and 2c on the high. White crude scale was offered at 3 to 3.50c a lb., New York, off 0.25c on the low and 0.875c on the high. Open spot sales were reported at the lows of price ranges for both products.

Gulf

NEW YORK, July 6.—Two open spot cargo sales, one of 80,000 bbls. of Bunker "C" fuel at $0.80 and the other 22,000 bbls. of 41-43 w.w. kerosine at 4c, were reported at the Gulf the past week.

Some grades of gas oil were offered 0.125 to 0.25c lower, with refiners' asking prices for below 43 d.i. and 43-47 d.i. reported ranging from 3 to 3.375c; 48-52 d.i., 3.25 to 3.625c; 53-57 d.i., 3.50 to 3.75c; and 58 and above d.i., 3.75 to 4.125c.

A refiner who had been out of the open spot market for some time said he was offering 400 e.p. gasoline at 4.75c for 72-74 oct. leaded and 68 oct. unleaded, 4.625c for 65 oct. unleaded and 4.50c for 60 oct. unleaded. Asking prices reported by other refiners ranged down to 4.125c for 72-74 oct. leaded and 68 oct. unleaded, and 4c for 65 and 60 oct. unleaded.

Mid-Continent

TULSA, July 6.—Most grades of Mid-Continent bright stock were quoted 0.5 to 1c a gal. lower when three refiners announced reductions in their quotations the past week. Quotations for other products in the Mid-Continent for the most part were reported unchanged.

Bright stock quotations for 150-160 vis. D 210 ranged from 15 to 19c for 0-10 pour, down 1c; from 14.50 to 18.50c for 10-25 pour, down 0.5c, and from 17 to 18.50c for 25-40 pour, down 1c.

Gasoline and heavy fuels continued in good demand, according to reports of refiners. "June was the biggest month in our history," one refiner said. Some pickup in kerosine movement also was reported. No changes in quotations for these products or open spot sales were reported.

Atlantic Coast

NEW YORK, July 6.—Reductions reported by several suppliers in their quotations for kerosine, light fuel oils, and marine and industrial diesel fuels featured Atlantic Coast markets the past week. Quotations reported for gasoline generally were unchanged.

Low prices reported for kerosine, and No. 2 and No. 3 fuel oil at north Atlantic points were down 0.3c. At New York, tank car quotations reported for kerosine ranged from 5.10c to 5.40c, No. 2 from 4.40c to 4.75c, and four suppliers reported quoting 4.40c for No. 3 fuel oil. Low prices reported for these products at points along the middle Atlantic coast were down generally 0.5c.

Diesel oil, ships' bunkers was quoted 15c per bbl. lower, at $1.80 at New York and several other seaboard points.

California

LOS ANGELES, July 6.—Slight advances were reported in prices of several petroleum products on the West Coast the past week.

Rack prices of third grade gasoline were reported up about 0.25c a gal. at many independent refineries in the Los Angeles Basin, bringing the range to 5.25 to 5.5c.

Quotations for casinghead gasoline generally were reported advanced 0.5c a gal. at independent plants, bringing the range to 6 to 6.5c.

Independent suppliers were reported holding diesel oil, gas oil and kerosine distillate at $1.20 to $1.25 per bbl.

Export markets were unusually quiet, with few inquiries received from foreign buyers and no change in quotations, according to reports.

'Gas' Station Zone Laws

NEW YORK, July 8. — Retroactive provisions against gasoline stations, garages and signs, contained in the City Planning Commission's building zone resolution for New York, were removed by the Board of Estimate before the code became effective June 28.

As originally provided, the retroactive provisions would have, after 5 and 10 years, respectively, compelled the removal of gasoline stations and garages from "non-conforming use" districts where they are now legally located, unless extensions were granted by the Board of Standards and Appeals.

Vote of three-quarters of the board of 16 men would have been required in the granting of extensions and therefore, vote of 5 men would have been sufficient to refuse extensions and banish any gasoline station or garage at the expiration of its permit.

A public hearing, held on the measure before it was submitted to the Board of Estimate, was marked by heated debate. Protests were made by 10 large oil companies and brief was filed by counsel for the Gasoline Station Operators' Council of Greater New York.

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are as published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy, time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in con unction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test; and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

Summary of Daily Gasoline Prices (July 2 to July 8)

U. S. Motor, (ASTM octane)	Latest Prices Mon. July 8	July 2	July 3	July 5
72-74 octane:				
Oklahoma	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
Mid-Western (Group 3 basis)	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875	4.75 – 4.875
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.00 (2)	5.00 (2)	5.00 (2)	5.00 (2)
East Texas	5.00 (1)	5.00 (1)	5.00 (1)	5.00 (1)
63-66 octane:				
Oklahoma	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75	4.25 – 4.75
Mid-Western (Group 3 basis)	4.375– 4.75	4.375– 4.75	4.375– 4.75	4.375– 4.75
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625	4.50 – 4.625
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.625 (2)	4.625 (2)	4.625 (2)	4.625 (2)
60 octane & below:				
Oklahoma	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
Mid-Western (Group 3 basis)	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.00	4.00	4.00	4.00
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.00 (2)	4.00 (2)	4.00 (2)	4.00 (2)
Motor Gasoline, 72-74 octane (ASTM):				
New York harbor	6.00 – 6.70	6.00 – 6.70	6.00 – 6.70	6.00 – 6.70
Philadelphia district	6.25 – 7.00	6.25 – 7.00	6.25 – 7.00	6.25 – 7.00
Baltimore district	6.25 – 7.75	6.25 – 7.75	6.25 – 7.75	6.25 – 7.75
Motor Gasoline:				
74-76 Octane: (L-3)				
Bradford-Warren (Western Penna.)	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
Other Districts (Western Penna.)	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
72-73 Octane: (L-3)				
Bradford-Warren (Western Penna.)	5.75	5.75	5.75	5.75
Other Districts (Western Penna.)	5.75	5.50 – 5.75	5.75	5.75

REFINERY PRICES

Gasoline—U. S. Motor (ASTM Octane) except where otherwise specified

Prices Effective	July 8	July 1
OKLAHOMA		
72-74 oct.	4.75 – 5.25	4.75 – 5.25
63-66 oct.	4.25 – 4.75	4.25 – 4.75
60 oct. & below	4.00 – 4.25	4.00 – 4.25
60-62 400 e.p.	4.00 (2)	4.00 (2)
MID-WESTERN		
72-74 oct.	4.75 – 5.25	4.75 – 5.25
63-66 oct.	4.375– 4.75	4.375– 4.75
60 oct. & below	4.00 – 4.25	4.00 – 4.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
72-74 oct.	4.75 – 4.875	4.75 – 4.875
63-66 oct.	4.50 – 4.625	4.50 – 4.625
60 oct. & below	4.00	4.00
60-62, 400 e.p.	4.00 (2)	4.00 (2)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
72-74 oct.	5.00 (2)	5.00 (2)
63-66 oct.	4.625 (2)	4.625 (2)
60 oct. & below	4.00 (2)	4.00 (2)
CENT. W. TEX. (Prices to truck transports)		
72-74 oct. (L-3)	5.00 (1)	5.00 (1)
67-69 oct. (L-3)	4.50 (1)	4.25 (1)
62 oct. & below (L-3)	4.00 (1)	4.00 (1)
E. TEX.		
72-74 oct.	5.00 (1)	5.00 (1)
60-62, 400 e.p.	4.25 (1)	4.25 (1)
KANSAS (For Kansas destinations only)		
72-74 oct.	5.00 – 5.125	5.00 – 5.125
63-66 oct.	4.625– 4.75	4.625– 4.75
60 oct. & below	4.125– 4.375	4.125– 4.375
N. LA. (For shipment to La. & Ark.)		
72-74 oct.	5.125–5.375 (1)	5.125–5.375 (1)
63-66 oct.	4.625–4.875 (1)	4.625–4.875 (1)
60 oct. & below	4.25 –4.50 (1)	4.25 –4.50 (1)

Prices Effective	July 8	July 1
ARK. (FOB Ark. plant of one refiner, for shipment to Ark. & La.)		
72-74 oct.	4.875	4.875
70-72 oct.	4.625	4.625
60 oct. & below	4.25	4.25
WESTERN PENNA. (Motor gasoline.)		
Bradford-Warren:		
74-76 oct. (L-3)	6.00 – 6.25	6.00 – 6.25
72-73 oct. (L-3)	5.75	5.75
Naphtha		
Untreated naphtha	.....	.....
Stoddard Solvent	.....	.....
Other districts:		
74-76 oct. (L-3)	5.75 – 6.00	5.75 – 6.00
72-73 oct. (L-3)	5.75	5.50 – 5.75
Naphtha		
Untreated naphtha	5.50	5.50
Stoddard Solvent	5.75 – 6.00	5.75 – 6.00
CENTRAL MICHIGAN (f)		
U.S. Motor: (Oct. L-3)		
72-74 oct.	6.50 – 7.25	6.50 – 7.25
67-69 oct.	5.50 – 6.25	5.50 – 6.25
Str.-Run Gasoline	(g) 4.25 – 5.00	(g) 4.25 –5.00
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	7.25	7.25
CALIFORNIA U.S. Motor:		
58-61 grav., 375-400 e.p., 65 oct. & above	6.50 – 8.00	6.50 – 8.00
54-58 grav., for outside state shipment	5.50 – 7.00	5.50 – 7.00
54-58 grav., for instate shipment	5.25 – 6.50	5.00 – 6.50

Kerosine, Gas & Fuel Oils

Prices Effective	July 8	July 1
OKLAHOMA		
41-43 grav. w.w.	3.875– 4.25	3.875– 4.25
42-44 grav., w.w.	4.00 – 4.625	4.00 – 4.625
Range Oil	3.625– 3.875	3.625– 3.875
No. 1 P.W.	3.625– 3.75	3.625– 3.75
No. 1 straw	3.375–3.625 (2)	3.375–3.625 (2)
No. 2 straw	3.25 – 3.625	3.25 – 3.625
No. 2 dark	3.375 (1)	3.375 (1)
U.G.I. gas oil	3.25 (2)	3.25 (2)
No. 3 fuel	3.25 – 3.375	3.25 – 3.375
No. 6 fuel	$0.55 (2)	$0.55 (2)
14-16 fuel	$0.85 (1)	$0.85 (1)
MID-WESTERN		
41-43 grav. w.w.	3.875– 4.25	3.875– 4.25
42-44 grav. w.w.	4.00 – 4.625	4.00 – 4.625
Range oil	3.75–3.875 (2)	3.75–3.875 (2)
No. 1 p.w.	3.625– 3.75	3.625– 3.75
No. 1 straw	3.50–3.625 (2)	3.50–3.625 (2)
No. 2 straw	3.375– 3.50	3.375– 3.50
No. 3	3.125– 3.375	3.125– 3.375
No. 5	$0.75 (1)	$0.75 (1)
No. 6	$0.50–$0.55 (2)	$0.50–$0.55 (2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	3.875–4.00 (2)	3.875–4.00 (2)
No. 1 P.W.	3.875 (2)	3.875 (2)
E. TEX.		
41-43 grav. w.w.	3.50–3.75 (1)	3.50–3.75 (1)
KANSAS (For Kansas destinations only)		
41-43 gravity w.w.	4.125– 4.25	4.125– 4.25
42-44 gravity w.w.	4.25 – 4.50	4.25 – 4.50
No. 1 p.w.	3.875	3.875
No. 6 fuel	$0.60 (2)	$0.60 (2)
N. LA. (For shipment to La. and Ark.)		
41-43 grav. w.w.	3.875–4.00 (1)	3.875–4.00 (1)
10-14 gravity	$0.65–$0.70 (1)	$0.65–$0.70 (1)

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan; shipments may originate at plants outside Central group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (i) Quotations. (j) Sale. (k) Sales.

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Kerosine, Gas & Fuel Oil

(Continued)

Prices Effective	July 8	July 1
ARK. (F.o.b. Ark. plant of one refiner for shipment to Ark. and La.)		
41-43 grav. w.w.	4.375	4.375
No. 1	3.875	3.875
No. 2	3.375	3.375
28-32 zero fuel	3.25	3.25
Tractor Fuel	(h)4.25	(h)4.25
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	4.75 – 5.25	4.75 – 5.25
46 grav. w.w.	5.375 (1)	5.375 (1)
36-40 gravity	4.875 (1)	4.875 (2)
Other districts:		
45 grav. w.w.	4.875– 5.00	5.00
46 grav. w.w.	5.00 – 5.125	5.125
47 grav. w.w.	5.00 – 5.25	5.125– 5.25
36-40 gravity	(l)3.875–4.50 (l)	3.875–4.50
CENTRAL MICHIGAN (f)		
47-49 gravity w.w.	4.50 – 5.00	4.50 – 5.00
P.W. Distillate	4.25 – 4.50	4.25 – 4.50
No. 3 gas oil, Str.	4.00 – 4.25	4.00 – 4.25
U.G.I. gas oil	3.25 – 3.75	3.00 – 3.75
Fuel Oils (Vis. at 100):		
500-700 Vis.	2.50 – 3.00	2.25 –3.00 (2)
300-500 Vis.	2.25–3.25 (2)	2.25 –3.25 (2)
100-300 Vis.	3.25 –3.50 (1)	3.25 –3.50 (1)
CALIFORNIA		
40-43 grav. w.w.	4.50 – 6.00	4.50 – 6.00
San Joaquin Valley:		
Heavy fuel	$0.55 –$0.75	$0.55 –$0.75
Light fuel	$0.75 –$0.85	$0.75 –$0.85
Diesel fuel	2.75 – 4.00	2.75 – 4.00
Stove dist.	3.00 – 5.00	3.00 – 5.00
Los Angeles:		
Heavy fuel	$0.47 –$0.65	$0.47 –$0.65
Light fuel	$0.55 –$0.80	$0.55 –$0.80
Diesel fuel	2.25 – 4.00	2.50 – 4.00
Stove dist.	2.25 – 5.00	2.50 – 5.00
San Francisco:		
Heavy fuel	$0.80	$0.80
Light fuel	$0.90	$0.90
Diesel fuel	4.50	4.50
Stove dist.	5.50	5.50

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Viscous Neutrals — No. 3 col. Vis. at 70° F.

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	24.50 (l)	24.50 (l)
10 p.t.	23.50 (l)	23.50 (l)
15 p.t.	22.50 (l)	22.50 (l)
25 p.t.	21.00	21.00
150 Vis. (143 at 100) 400-405 fl.		
0 p.t.	22.50 (l)	22.50 (l)
10 p.t.	21.50 (l)	21.50 (l)
15 p.t.	20.50 (l)	20.50 (l)
25 p.t.	19.00	19.00
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	16.50 (l)	17.50 (l)
15 p.t.	15.50 (l)	16.50 (l)
25 p.t.	14.00	15.00 –17.00
600 S.R. filterable	9.00 –10.00	10.00
650 S.R.	11.00 –12.00	12.00
600 fl.	12.00 –13.00	13.00
630 fl.	14.00 –15.00	15.00

MID-CONTINENT (F.o.b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis. Color		
60-85—No. 2	5.50 – 6.00	5.50 – 6.00
86-110—No. 2	5.50 – 6.25	5.50 – 6.25
150—No. 3	8.50 –10.50	8.50 –10.50
180—No. 3	9.50 –11.50	9.50 –11.50
200—No. 3	10.00 –12.00	10.00 –12.00
250—No. 3	11.00 –13.00	11.00 –13.00
280—No. 3	11.50 –14.00	11.50 –14.00
300—No. 3	12.00 –14.25	12.00 –14.25

Lubricating Oils (Cont'd)

Prices Effective	July 8	July 1
Red Oils:		
180—No. 5	11.50 (1)	11.50 (1)
200—No. 5	11.00–11.50 (2)	11.00–11.50 (2)
280—No. 5	11.50–12.50 (2)	11.50–12.50 (2)
300—No. 5	12.00–14.00 (2)	12.00–14.00 (2)

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p., generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stocks:

200 Vis. at D. 210°	19.00 (1)	20.00 (1)
150-160 Vis. at 210° D:		
0 to 10 p.p.	15.00 –19.00	16.00 –19.00
10 to 25 p.p.	14.50 –18.50	15.00 –18.50
25 to 40 p.p.	17.00–18.50 (2)	17.00–18.50 (2)
150-160 vis. at 210° E.	13.50 –17.00	14.50 –17.00
120 Vis. at 210° D:		
0 to 10 p.p.	15.00 –17.125	15.00 –17.125
25 to 40 p.p.	16.00 (1)	16.00 (1)
600 S.R. Dark Green	7.00 (2)	7.00 (2)
600 S.R. Olive Green	8.00 – 9.50	8.00 – 9.50
631 S.R.	12.50 (1)	13.00 (1)
Black Oil	4.00 –5.50 (2)	4.00 –5.50 (2)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100°F*)		
100 No. 1½-2½	5.75 – 6.00	5.75 – 6.00
200 No. 2-3	7.50	7.50
300 No. 2-3	8.00	8.00
500 No. 2½-3½	9.00	9.00
750 No. 3-4	9.50	9.50
1200 No. 3-4	9.875	9.875
2000 No. 4	10.00	10.00
Red Oils:		
200 No. 5-6	7.50	7.50
300 No. 5-6	8.00	8.00
500 No. 5-6	9.00	9.00
750 No. 5-6	9.50	9.50
1200 No. 5-6	9.875	9.875
2000 No. 5-6	10.00	10.00

CHICAGO (From Mid-Continent p.l. crude)

Neutra Oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils

Vis. Color		
60-85—No. 2	7.25	7.25
86-110—No. 2	7.25	7.25
150—No. 3	9.50	9.50
180—No. 3	10.50	10.50
200—No. 3	11.00	11.00
250—No. 3	12.00	12.00
Red Oils:		
180—No. 5	10.50	10.50
200—No. 5	11.00	11.00
250—No. 5	12.00	12.00
280—No. 5	12.50	12.50
300—No. 5	13.00	13.00

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)

140	8.75	8.75
160	9.50	9.50
200	10.50	10.50

Bright stocks, 160 vis. at 210, No. 8 color:

0 to 10 p.p.	16.50	17.00
15 to 25 p.p.	15.50	16.00
30 to 40 p.p.	14.8)	15.25
E filtered Cyl. Stock	12.50	12.50

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	(i)1.50	(k)1.50
FOB BRECKENRIDGE		
Grade 26-70	(i)1.25	(i)1.25
CALIFORNIA (FOB plants in Los Angeles basin)		
75-85, 350-375 e.p. for blending	6.00 – 6.50	5.50 – 6.25

Naphtha and Solvent

Prices Effective	July 8	July 1
(FOB Group 3)		
Stoddard solvent	5.875	5.875
Cleaners' naphtha	6.375	6.375
V. M. & P. naphtha	6.375	6.375
Mineral spirits	5.375	5.375
Rubber solvent	6.375	6.375
Lacquer diluent	6.625– 7.375	6.625– 7.375
Benzol Diluent	7.875– 8.375	7.875– 8.375

Wax

White Crude Scale:

WESTERN PENNA. (Bbls., C.L., N. Y.)		
122-124 A.m.p.	3.00 – 3.25	3.25 – 4.00
124-126 A.m.p.	3.00 – 3.25	3.25 – 4.00
OKLAHOMA (Bbls. or burlap bags, C.L.)		
124-126 A.m.p.	3.50 –3.75 (1)	3.75 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags or slabs loose, carloads. Melting points are EMP (ASTM) methods; add 3° F. to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.60	5.60
125-127	5.60	5.70
127-129	5.85	5.85
130-132	6.15	6.15
132-134	6.40	6.40
135-137	7.15	7.15

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)			
Snow White	5.125– 6.125		6.125
Lily White	4.375– 5.125		5.125
Cream White	3.625– 4.125		4.125
Light Amber	2.625– 3.00		3.00
Amber	2.375– 2.875		2.875
Red	2.625		2.625

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

	Gasoline-Kerosine Cents per Cwt.	Gasoline-Kerosine Cents per gal. 6.6 lbs.	Distillate-Gas Oil-Fuel Oil Cents per Cwt.	Distillate-Gas Oil-Fuel Oil Cents per gal. 7.4 lbs.
Chicago, Ill.	40	2.640	32	2.368
Decatur, Ill.	39	2.574	31	2.294
Joliet, Ill.	40	2.640	32	2.368
Peoria, Ill.	39	2.574	31	2.294
Quincy, Ill.	36	2.376	29	2.146
Indianapolis, Ind.	48	3.168	39	2.886
Evansville, Ind.	46	3.036	37	2.738
South Bend, Ind.	49	3.231	**42	**3.108
Detroit, Mich.	64	4.224	51	3.774
Gd. Rapids, Mich.	61	4.026	50	3.700
Saginaw, Mich.	66	4.356	53	3.922
Green Bay, Wis.	51	3.366	41	3.034
Milwaukee, Wis.	43	2.838	34.5	2.553
LaCrosse, Wis.	46	3.036	37	2.738
Min'ap'ls-St. Paul	46	3.036	37	2.738
Duluth, Minn.	52	3.432	41.5	3.071
Mankato, Minn.	46	3.036	37	2.738
Des Moines, Ia.	36	2.376	29	2.146
Davenport, Ia.	39	2.574	31	2.294
Mason City, Ia.	42	2.772	33.5	2.479
St. Louis, Mo.	33	2.178	26.5	1.961
Kansas City, Mo.	28	1.848	22.5	1.665
St. Joseph, Mo.	28	1.848	22.5	1.665
Fargo, N. D.	63	4.158	50.5	3.737
Minot, N. D.	83	5.478	66.5	4.921
Huron, S. D.	53	3.498	42.5	3.145
Wichita				
From Ponca City	7.5	*0.495	7.5	†0.555
From Tulsa	12.5	*0.825	12.5	†0.925
From Cushing	11	*0.726	11	†0.814

*This rate also includes distillate rate at 6.6 lbs. per gal.

**This rate applies only to residual fuel and gas oil. Combination rate of 32c per cwt. at 7.4, Group 3 to Chicago, plus 9c per cwt. at 6.6, Chicago to South Bend, total of 2.962c per gal., applies to petroleum fuel oil distillate not suitable for illuminating purposes.

†This rate is exclusive of distillate which is based on 6.6 lbs. per gal. from Ponca City, Tulsa and Cushing, Okla., to Wichita. Includes only gas oil and fuel oil.

NOTE: There is no Group 3 rate to Wichita, Kans.

(f) Prices FOB Central Michigan refinery group basis for shipment within Michigan; shipments may originate at plants outside Central group. (g) Excluding Detroit shipment. (h) For shipment to Ark. points only. (i) Quotations. (j) Sale. (k) Sales. (l) Pittsburgh district prices excluded.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators, FOB their terminals)

Prices Effective July 8

MOTOR GASOLINE (ASTM Octane)

District:	72-74 Oct.	68-70 Oct.	65-66 Oct.	60-64 Oct.	KEROSINE and/or NO. 1 FUEL
N. Y. Harb.	6.00 – 6.70	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25	5.10
N. Y. Harb., barges	5.75 – 6.50	5.75 – 6.00	5.75 – 6.00	5.00	
Albany	6.20	.....	.....	.....	5.20 – 5.50
Philadelphia	6.25 – 7.00	6.25 – 6.75	6.25 (2)	6.00 – 6.75	5.00 – 6.00
Baltimore	6.25 – 7.75	6.25 – 7.00	6.25 (2)	6.25 – 6.50	5.00 – 5.50
Norfolk	6.75 – 7.75	6.50 – 7.00	6.75 (1)	6.25-6.75 (2)	4.75 – 5.50
Wilm'ton	6.75 – 7.55	6.25 – 7.00	6.75 (1)	6.25 – 6.75	5.00 – 5.50
Char'ston	6.75 – 7.55	7.00 (2)	6.75 (1)	6.25 – 6.75	5.00 – 5.50
Savannah	6.50 – 7.00	6.25 – 7.00	.....	6.25 – 6.50	5.50 – 5.625
Jacksonville	6.50 – 7.00	6.25 – 6.50	.....	5.75 – 6.50	5.50 – 5.75
Miami	6.50-7.00 (2)	6.50 (1)	.....	5.75 –6.50 (2)	5.50 –5.75 (2)
Tampa	6.50 – 7.00	6.25-6.50 (2)	.....	6.25 – 6.50	5.50 – 5.75
Pensacola	6.75-7.00 (1)	.....	.....	6.25-6.50 (1)	5.50-5.625 (1)
Mobile	6.50 – 7.00	6.00 (1)	.....	5.75 – 6.50	5.375–5.625 (2)
Portland	6.30	6.20 (1)	.....	.....	5.30
Boston	6.00 – 6.50	6.00 (2)	5.95 – 6.75	5.75 – 6.05	5.20
Providence	6.20 – 6.50	.....	6.05 – 6.75 (2)	5.95 – 6.00	5.20

FUEL OILS

	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	1.10	1.10	$1.55 –$1.70	$1.35
N. Y. Harb., barges	1.30	1.30	.....	.....
Albany	1.50 (2)	1.50	$1.95 (1)	$1.55 (1)
Philadelphia	1.50 – 3.00	1.25 – 3.00	$1.46 –$1.575	$1.25 –$1.50
Baltimore	1.25	1.00 – 1.25	$1.47 (1)	$1.25 –$1.35
Norfolk	1.25 – 3.50	1.25 (1)	.....	$1.35 (2)
Wilmington	1.25 – 3.50	3.50 (1)	.....	.....
Charleston	1.25 (2)	.....	.....	$1.30 (2)
Savannah	.....	.....	.....	$1.30 (1)
Jacksonville	1.75 (1)	1.75 (1)	.....	$1.30 (2)
Tampa	1.75 (1)	.....	.....	$1.25 (2)
Portland	1.60	1.60	$1.95 (1)	$1.45 –$1.55
Boston	1.50	1.50	$1.65 (2)	$1.35
Providence	1.50	1.50	$1.60 –$1.65	$1.35

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House 28-34	Gas Oil Gravity
N. Y. harbor	$1.35	$1.80 –$1.95	1.40 – 1.60	1.50	
Albany	$1.55 (1)	$1.90	1.50	.....	
Philadelphia	$1.25 –$1.50	$1.80 –$1.95	.....	.....	
Baltimore	$1.35	$1.80	1.25	1.25	
Norfolk	$1.35	$1.80	1.25	1.25	
Charleston	$1.30	$1.80 –$1.90	1.25	1.25	
Savannah	$1.30 (1)	$1.90 –$1.995	.....	.....	
Jacksonville	$1.30	$1.90 –$1.995	.....	.....	
Tampa	$1.25	$1.90 –$1.995	.....	.....	
Portland	$1.45 –$1.55	$1.90	1.60	1.70	
Boston	$1.35	$1.80	1.50	1.60	
Providence	$1.35	$1.80	1.50	1.60	

New York Export Lubes

(Penna. Products in bbls. FAS New York)

Prices Effective	July 8	July 1
Bright stock:		
Light, 25 p.t.	.22.00 –22.50 (2)	23.50 –25.00 (2)
Neutral oil:		
200 3 color, 25 p.t.	27.00 (1)	28.00 (1)
150 3 color, 25 p.t.	.25.00 –26.50 (2)	26.00 –27.50 (2)
600 s.r., unfilt.	.16.50 –17.50 (2)	18.50 (2)
650 s.r., unfilt.	.17.50 –19.50 (2)	19.00 –20.50 (2)
600 fl. s.r.	.18.50 –20.50 (2)	20.00 –21.50 (2)
630 fl., s.r.	.21.00 –22.50 (2)	23.50 –24.50 (2)

Wax

(A.S.T.M. Tests. Melting points, however, are A.M.P., 3° higher than E.M.P. Export prices, FAS, c.l. Domestic prices, FOB. refr'ies., in bags, c.l., with 0.2c discount allowed for shipment in bulk, except where noted. Scale solid; fully refined slabs in bags)

Prices Effective July 8

	New Orleans Export	N. Y. Domestic	N. Y. Export
Crude Scale:			
124-6 Yellow	3.00 (1)	.....	3.00 (1)
122-4 White	.....	3.00 –3.25	3.00 –3.25
124-6 White	3.00 –3.75 (2)	3.00 –3.25	3.00 –3.25
Fully Refined:			
123-5	.....	5.60	5.875 (1)
125-7	6.00 (1)	5.60	6.00 (2)
128-30	6.25 (1)	5.60 –5.70 (i)	6.25 (2)
130-2	6.50 (1)	5.85 (i)	6.50 (2)
133-5	7.00 (1)	6.15 (i)	7.00 (2)
135-7	7.25 (1)	6.40 (2&i)	7.25 (2)
108-11 White Match	.....	.....	1.00 (1&j)

Naphtha

Prices Effective July 1	V.M.&P. Naphtha	Mineral Spirits
Baltimore	9.50	8
New York Harbor	8.8-9.5	8.2-9
Philadelphia district	10	8.9
Boston	9.5	9.25 –9.50
Providence	9.5	9.5
†Ohio points, delivered	8.75	*8.25

*This is on rubber solvent.

†Ohio prices are those of S. O. Ohio. Its prices for D.C. naphtha, special Varnolene, Varnolene and Sohio Solvent are same as for V.M.&P.

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices Effective	July 8	July 1
375 e.p. blend, 70 oct.	5.00 – 5.875	5.25 – 5.875
390 e.p. blend, 68 oct.	4.875 – 5.75	5.125 – 5.75
390 e.p. blend, 66 oct.	4.875 – 5.625	5.125 – 5.625
400 e.p. blend, 65 oct. min.	4.75 – 5.50	5.00 – 5.50
U. S. Motor, under 65 octane	4.75 – 5.375	5.00 – 5.375
38-40 grav. w.w. kero., 150 fire point	4.50 – 5.00	4.50 – 5.00
41-43 grav., w.w. kero.	4.75 – 5.00	4.75 – 5.00
44 grav., w.w. kero.	5.00 – 5.50	5.00 – 5.50
Diesel fuel, 24 & above	$1.25 –$1.30	$1.25 –$1.30
Diesel fuel, under 24	$1.15 –$1.25	$1.15 –$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	$1.25 –$1.35	$1.25 –$1.35
Grade C fuel, Pac. Spec. 400	$0.65 –$0.75	$0.65 –$0.75
In Ships' Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 –$1.45	$1.35 –$1.45
Grade C fuel, Pac. Spec. 400	$0.75 –$0.90	$0.75 –$0.90

Pacific Export (Cont'd)

Prices Effective	July 8	July 1
Cased Goods: (Per case)		
U. S. M.	$1.45 –$1.55	$1.45 –$1.55
375-400 e.p. blend, 65 oct. & above	$1.60 –$1.70	$1.60 –$1.70
400 e.p. blend, under 65 oct.	$1.50 –$1.60	$1.50 –$1.60
40-43 grav. w.w. kero., 150 fire point	$1.40 –$1.50	$1.40 –$1.50
Kero., p.w.	$1.30 –$1.45	$1.30 –$1.45

Tanker Rates

(Approximate rates. Cents per bbl.)	Last Paid	Owners Ask
Gulf-N. Atlantic: (not E. of N.Y.)		
Hvy. Crude & fuel, (10 to 19.9 gravity)	27	22–27
Light Crude, (30 Grav. or Lighter)	25	20–25
Gasoline	41	35
Kerosine	44	38
No. 2 Fuel	47	41

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf for domestic and export for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

MOTOR GASOLINE (ASTM Octane)

Prices Effective July 8

	60-62 Gravity, 400 e.p.	61-63 Gravity, 390 e.p.	64-66 Gravity, 375 e.p.
72-74 oct. leaded	4.125–4.75	4.125–4.25	4.25 –4.375
70 oct. unleaded	4.50 –4.75	4.50 –4.75	4.625–4.875
68 oct. unleaded	4.125–4.75	4.125–4.375	4.25 –4.50
65 oct. unleaded	4.00 –4.625	4.00–4.125	4.125–4.25
60 oct. unleaded	4.00 –4.50	4.00	4.00 –4.125

KEROSINE, GAS & FUEL OILS

	July 8	July 1
41-43 grav. w.w. kero.	4.00 – 4.625	4.00 – 4.625
Gas Oil (Less than ½ of 1% sulfur)		
Below 43 diesel index	3.00 – 3.375	3.00 – 3.375
43-47 diesel index	3.00 – 3.375	3.00 – 3.375
48-52 diesel index	3.25 – 3.625	3.25 – 3.625
53-57 diesel index	3.50 – 3.75	3.625–3.75
58 & above	3.75 – 4.125	4.00 – 4.125
No. 2 fuel	3.25 – 3.625	3.25 – 3.625
Diesel oil, ships' bunkers, ex lighterage	$1.50 –$1.70	$1.50 –$1.70
Grade C, ships' bunkers, ex lighterage	$0.80 –$0.95	$0.80 –$0.95
Grade C cargoes	$0.80 –$0.87	$0.80 –$0.87

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk FOB terminals)

July 8

	New Steel Drums	Bulk
200 vis. D. 210 brt. stock	.26.00 –27.00 (2)	20.00 –21.30 (2)
150 vis. D 210 brt. stock 0-10 p.p.	.22.00 –23.00 (2)	16.00 –17.30 (2)
10-25 p.p.	22.50 (1)	16.00 (1)
100 vis. D 210 brt. stock 0-10 p.p.	.....	.....
10-25 p.p.	.....	.....
200 vis. No. 3 col. neutral:		
0-10 p.p.	17.50 (1)	11.00 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk. exprt. shp., FOB terminals.)

Unfiltered Pale Oils: Vis. Color	July 8	July 1
100 No. 3	6.00 – 6.50	6.00 – 6.50
200 No. 3	7.50 – 8.50	7.50 – 8.50
300 No. 3	8.00 – 9.00	8.00 – 9.00
500 No. 3½	9.00 –10.50	9.00 –10.50
750 No. 4	9.50 –11.00	9.50 –11.00
1200 No. 4	10.00 –13.50	10.00 –13.50
2000 No. 4	10.25	10.25
Red Oils: Vis. Color		
100 No. 5-6	6.00 – 6.50	6.00 – 6.50
200 No. 5-6	7.50 – 8.50	7.50 – 8.50
300 No. 5-6	8.00 – 9.00	8.00 – 9.00
500 No. 5-6	9.00 –10.50	9.00 –10.50
750 No. 5-6	9.50 –11.00	9.50 –11.00
1200 No. 5-6	10.00 –13.50	10.00 –13.50
2000 No. 5-6	10.25	10.25

(i) Shipment in bags or in bulk. (j) Shipment in tight barrels.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for Feb. 21, 1940. These prices in effect July 8, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	7.6	8.7	4.5	7.7
*Newark, N. J.	7.6	8.7	4.5	7.7
Annapolis, Md.	8.35	9.35	5.5	9.5
Baltimore, Md.	7.75	8.75	5.5	9
Cumberland, Md.	9.15	10.15	5.5	10
Washington, D. C.	8	9	3.5	9.5
Danville, Va.	8.95	11.45	6.5	11.5
Norfolk, Va.	7.75	10.25	6.5	11
Petersburg, Va.	8.05	10.55	6.5	11.7
Richmond, Va.	8.05	10.55	6.5	11
Roanoke, Va.	9.25	11.75	6.5	11
Charleston, W. Va.	8.55	11.05	6.5	12.6
Parkersburg, W. Va.	7.85	9.85	6.5	11.2
Wheeling, W. Va.	8.85	10.75	6.5	11.8
Charlotte, N. C.	9.9	10	7.5	11.8
Hickory, N. C.	10.45	11.95	7.5	12.3
Mt. Airy, N. C.	10.3	11.8	7.5	12.2
Raleigh, N. C.	9.65	9.5	7.5	11.5
Salisbury, N. C.	9.95	9	7.5	11.9
Charleston, S. C.	7.75	10.25	7.5	9.25
Columbia, S. C.	8.6	11.1	7.5	11.5
Spartanburg, S. C.	9.3	11.8	7.5	12.2

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	11.5	15.5
Baltimore, Md.	15.5	....
Washington, D. C.	15	....

	Fuel Oils—T.W. No. 1	No. 2	No. 4
Atlantic City, N. J.	8	6.75	6.75
Newark	8	6.75	6.75
Annapolis, Md.	....	6.75	....
Baltimore	7.5	6.75	6.25
Washington, D. C.	7.75	7	7
Norfolk, Va.	7.50	6.50	6.50
Petersburg	7.75	6.75	....
Richmond	7.75	6.75	6.75
Charlotte, N. C.	9.25	8.00	....
Hickory	....	8.25	....
Raleigh	9.25	7.75	....
Charleston, S. C.	8.25	6.75	....
Columbia	9.20	7.70	....
Spartanburg	10.00	8.50	....

*Effective Sept. 14, 1939, minimum retail resale price of 11.9c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w. price, thru territory, except New Jersey. While above posted prices continue at Atlantic City and Newark, dealers will pay net price of 8.6c per gal. for Esso; dealers having pumps marked only Esso, Esso Extra and Standard White gasoline will pay 8.1c per gal. for Esso.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals, and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Consumer Tank Car	"Split" Dealer T.W.	Gasoline Taxes	†† Kerosine T.W.
Metropolitan N. Y. City: Boroughs of Manhattan, Bronx and Brooklyn (Kings and Queens)	6.7	8	*5.5	8.2
Borough of Richmond (Staten Is.)	6.7	8	*5.5	8.2
Albany, N. Y.	6.2	8	5.5	7.9
Binghamton, N. Y.	7.4	7.9	5.5	9.1
Buffalo, N. Y.	7.1	7.6	5.5	8
Jamestown, N. Y.	6.9	8.3	5.5	7.8
Plattsburg, N. Y.	6.7	9.1	5.5	8.5
Rochester, N. Y.	7.8	8.7	5.5	8.5
Syracuse, N. Y.	7.2	7.8	5.5	8.7
Bridgeport, Conn.	6.4	7	4.5	8.1
Danbury, Conn.	7.3	8.5	4.5	8.8
Hartford, Conn.	6.5	7	4.5	7.5
New Haven, Conn.	6.4	7.4	4.5	7
Bangor, Me.	6.7	7.6	5.5	8.1
Portland, Me.	6.3	8.3	5.5	8
Boston, Mass.	6.3	7.3	4.5	8.3
Concord, N. H.	7	9.2	5.5	8.9
Lancaster, N. H.	7.8	10.3	5.5	9.9
Manchester, N. H.	6.9	7.5	5.5	8.9
Providence, R. I.	6.2	7.7	4.5	8.3
Burlington, Vt.	6.9	9.0	5.5	8.5
Rutland, Vt.	7	8.5	5.5	8.9

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	9.5	10.6
†New York City	8.2	8.8
Rochester, N. Y.	10.4	11.4
Syracuse, N. Y.	11.2	12.3
Boston, Mass.	11.5	11.5
Bridgeport, Conn.	11.5	12
Hartford, Conn.	11	11.5
Providence, R. I.	11.5	12.5

Fuel Oils—T. W.

	Nos. 2 & 3
New York City	6.6
Albany, N. Y.	6.7
Rochester, N. Y.	7.2
Boston, Mass.	6.7
Bangor, Me.	7.2
Manchester, N. H.	7.3
Burlington, Vt.	7.4
Hartford, Conn.	6.9
New Haven, Conn.	6.9
Providence, R. I.	6.7

*Plus 2% city sales tax computed at time of each sale.

†Prices apply to consumers only in quantities over 1000 gals. annually; for quantities under 1000 gals. annually, add 0.5c per gal.

††Same prices apply for No. 1 fuel.

Discounts: Gasoline—To undivided dealers, 0.5c less than "split" dealer t.w.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.C.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	7	8.5	5.5	10.5
Pittsburgh	8	9.5	5.5	10.5
Allentown	8	9.5	5.5	10.5
Erie	8	9.5	5.5	10
Scranton	7	9	5.5	10.5
Altoona	8	10	5.5	10.5
Emporium	8	10	5.5	10.5
Indiana	8	10	5.5	10.5
Uniontown	8	10	5.5	10.5
Harrisburg	8	9.5	5.5	10.5
Williamsport	8	9.5	5.5	10
Dover, Del.	....	8.5	5.5	10.5
Wilmington	....	8.5	5.5	10
Boston, Mass.	....	7.3	4.5	8.5
Springfield, Mass.	....	8.5	4.5	9.0
Worcester, Mass.	....	7.6	4.5	8.4
Fall River, Mass.	....	8	4.5	8.5
Hartford, Conn.	....	7.5	4.5	8.5
New Haven, Conn.	....	7.4	4.5	8.5
Providence, R. I.	....	7.7	4.5	8.5
Atlantic City, N. J.	....	8.6	4.5	8.4
Camden, N. J.	....	8.6	4.5	8.1
Trenton, N. J.	....	8.6	4.5	8.4
Annapolis, Md.	....	9.35	5.5	10
Baltimore, Md.	....	8.75	5.5	9
Hagerstown, Md.	....	9.85	5.5	10
Richmond, Va.	....	10.55	6.5	11
Wilmington, N. C.	....	10.35	7.5	10.8
Brunswick, Ga.	....	8	7.5	*11
Jacksonville, Fla.	....	7.5	8.5	10

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	12	14.5
Lancaster, Pa.	13.5	16
Pittsburgh, Pa.	14.5	14.5

	Fuel Oils—T.W. 1	2	3	4	5	6
Phila., Pa.	8.5	7.00	7.00	7.00	4.25	3.50
Allentown, Pa.	8.5	6.5	6.5	6.5	....	....
Wilmington, Del.	8.00	7.00	7.00	7.00	....	....
Springfield, Mass.	9.0	7.1	....	....	....	....
Worcester, Mass.	8.6	7	....	7	....	....
Hartford, Conn.	8.5	6.9	....	6.9	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same. At Scranton, Pa., 1c per gal. voluntary discount allowed to dealers only.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

Naphthas—Philadelphia, 200 gals. or more at one time, 2c off Lancaster, contract buyers taking 1000 gals. or more per year, one drum up, 2c off; non-contract buyers, 200 gals. or more at one time, 2c off. Pittsburgh, 500 gals. or more at one time, 2c off.

S. O. Ohio

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	Divided Dlr.	‡S.S.	Gasoline Taxes	†Kerosine T.W.
Ohio, Statewide	10.5	9.5	12.5	5.5	8
Akron	10.5	8	9.5	5.5	8
Cincinnati	10.5	9	11.5	5.5	8
Cleveland	10.5	8.5	11	5.5	8
Columbus	10.5	9	11.5	5.5	8
Dayton	10.5	9	11.5	5.5	8
Marietta	10.5	9	11.5	5.5	8
Portsmouth	10.5	9.5	12.5	5.5	8
Toledo	10.5	7	8.5	5.5	8
Youngstown	10.5	8.5	11	5.5	7.5

Esso Aviation Gasoline—Thru Ohio

	Consumer T.W.	Gasoline Taxes
71 octane	15.5	5.5
80 octane	16.5	5.5
87 octane	17.5	5.5

S. O. Ohio (Cont'd)

†Naphthas — Statewide T.W.

S.R. Solvent	12.75
D.C. Naphtha	13.25
V.M.&P. Naphtha	13.25
Varnolene	13.25
Sohio Solvent	13.25

††Fuel Oils—T.W.

	No. 1	No. 2	No. 3
Toledo	7.00	7.00	6.50
Rest of Ohio	7.50	7.50	7.00

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Prices are for full compartment hose dumps; bucket dumps are 0.5c per gal. higher.

Discounts:

X-70 gasoline—to undivided dealers, 0.5c off dealer t.w.

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Naphthas—to contract consumers off t.w. prices: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	8.5	7.5	6.5	9.5
Lexington, Ky.	9.5	8	6.5	10
Louisville, Ky.	8.5	6.5	6.5	9
Paducah, Ky.	9	8	6.5	9
Jackson, Miss.	9	8	7.5	*9
Vicksburg, Miss.	9	8	7.5	*8.5
Birmingham, Ala.	9.5	8	*8.5	9
Mobile, Ala.	8.5	7	*9.5	8
Montgomery, Ala.	9	7.5	*9.5	*9
Atlanta, Ga.	9	7.5	7.5	*9
Augusta, Ga.	10	9	7.5	*9
Macon, Ga.	9.5	8	7.5	*9
Savannah, Ga.	9	8	7.5	*8
Jacksonville, Fla.	7.5	6.5	8.5	8
Miami, Fla.	7.5	6.5	8.5	8
Pensacola, Fla.	8.5	7	*9.5	8.5
Tampa, Fla.	9	8	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices except at Tampa. Tampa consumer t.w. prices are Crown 12c, Standard 10.5c.

Discounts:

Gasoline—Tampa: Temporary discount of 3c on Crown, 2.5c on Standard, off Consumer T.W. prices which see above.

S. O. Indiana

Red Crown (*Regular Grade*)
Stanolind (*Third Grade*)

	Red Dealer Prices Crown Cons. T.W.	Crown	Stanolind	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	11.1	9.1	6.9	4.5	10
Decatur, Ill.	9.6	8.1	6	4.5	9.5
Joliet, Ill.	11.1	9.6	6.7	4.5	10
Peoria, Ill.	11.1	8.7	8.1	4.5	10
Quincy, Ill.	10.9	9.4	6.7	4.5	9.8
Indianapolis, Ind.	11.8	9.3	8.9	5.5	*10.2
Evansville, Ind.	11.6	10.1	9.1	5.5	*10.5
South Bend, Ind.	11.8	10.3	8.8	5.5	*10.2
Detroit, Mich.	9.6	8.1	7.1	4.5	7.6
Grand Rapids, Mich.	9.2	7.4	7.2	4.5	9
Saginaw, Mich.	8.2	8.7	8.2	4.5	9.3
Green Bay, Wis.	11.9	10.4	9.9	5.5	10.3
Milwaukee, Wis.	11.3	9.8	9.3	5.5	10.2
La Crosse, Wis.	11.5	10	9.5	5.5	10.4
Minneapolis-St. Paul.	11.5	8.5	7.5	5.5	10.4
Duluth, Minn.	11.9	10.4	9.9	5.5	10.8
Mankato, Minn.	11.5	10	9.5	5.5	9
Des Moines, Ia.	10.9	8.4	7.4	4.5	*9.8
Davenport, Ia.	11.1	9.6	8.4	4.5	*10
Mason City, Ia.	11.3	9.8	6.9	4.5	*10.2
St. Louis, Mo.	10.7	8.7	7.5	*4.5	8
Kansas City, Mo.	10.4	8.9	6.9	*4.5	8
St. Joseph, Mo.	10.4	8.0	7.5	*4.5	7.9
Fargo, N. D.	12.7	11.2	8.8	5.5	11.6
Huron, S. D.	12	10.5	10	5.5	10.9
Wichita, Kans.	9.3	7.6	5.5	4.5	7

(Continued on next page)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes, where levied, are indicated in footnotes. Dealer discounts are shown in footnotes; for commercial consumer discounts, see NPN for Feb. 21, 1940, These prices in effect July 8, 1940 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Stanavo Aviation 73 Octane

Chicago, Ill	14.9		
Detroit, Mich	16.5		4.5
Milwaukee, Wis	15.1		5.5
Minneapolis, Minn	15.3		5.5
St. Louis, Mo	14.5		3.5
Kansas City, Mo	14.2		*4.5
Fargo, N. D	16.5		5.5
Huron, S. D	15.8		5.5

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
(Prices are base prices before discounts)				
Chicago	12.7	13	12.4	4.5
Detroit	15.2	14.2	15.7	4.5
K. C., Mo	12.9	13.9	13.4	1.5
St. Louis	13.2	14.2	12.4	1.5
Milwaukee	13.8	14.8	14.3	5.5
Minneap'lis	14	15	12.7	5.5

†Fuel Oils—T.W.	No. 1 Fuel	Stanolex Furnace
Chicago	**6.50	6.50
Indianapolis	....	*7.5
Detroit	....	6.6
Milwaukee	8.2	7.7
Minneapolis	7.5	7.5
St. Louis	7.0	6.50
Kansas City	6.8	6.8

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1c federal tax and state taxes.

†Prices for small-lot deliveries range up to 2c higher than above prices.

**For 400 gals. & over; 150 to 399 gals., 7.25c; 1 to 149 gals., 8.25c.

S. O. Nebraska

Standard Red Crown Gasoline (*Regular Grade*)

	T.W.	Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	10.5	8.9	6.5	9.0
McCook	11	7.9	6.5	9.5
Norfolk	11	8.9	6.5	9.9
North Platte	11.3	8.5	6.5	10.2
Scottsbluff	11.9	9	6.5	10.5

S. O. Louisiana

Esso (*Regular Grade*)

	Consumer Tank Car	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Little Rock, Ark	7.25	9.75	8	10
Alexandria, La	6.75	9.25	8.5	*9.5
Baton Rouge, La	6.75	9.25	8.5	*9.5
New Orleans, La	5.75	8.25	8.5	*9
Lake Charles, La	6.75	9.25	8.5	*9
Shreveport, La	5.5	8	8.5	*8
Lafayette, La	7	9.5	8.5	*9
Bristol, Tenn	10.25	9.50	8.5	12
Chattanooga, Tenn	9.5	11	8.5	12
Knoxville, Tenn	10	11.5	8.5	12.5
Memphis, Tenn	8	9.5	8.5	11
Nashville, Tenn	9	8.4	8.5	11.5

*New Orleans kerosine price is ex 1c parish tax, and all Louisiana kerosine prices are ex 1c state tax.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)

	Tank Truck	Retail	Gasoline Taxes	Kerosine T.W
Dallas, Tex	6	10	5.5	6
Ft. Worth, Tex	6	10	5.5	7
Houston, Tex	7	11	5.5	8
San Antonio, Tex	7	11	5.5	8

Thriftane

(Leaded, 67 Octane, Purple Gasoline)

Dallas	5	8	5.5
Ft. Worth	5	8	5.5
Houston	5	8	5.5
San Antonio	5	8	5.5

74 Octane Aviation Gasoline, Clear

	Tank Car
FOB Baytown, Tex	8.5

*To all classes of dealers & consumers.

The Texas Co.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex	6	5	5.5
Ft. Worth, Tex	6	5	5.5
Wichita, Falls, Tex	7	5.5	5.5
Amarillo, Tex	7	5	5.5
Tyler, Tex	7	5	5.5
El Paso, Tex	8	7	5.5
San Angelo, Tex	7	5	5.5
Waco, Tex	7	5	5.5
Austin, Tex	8.5	7	5.5
Houston, Tex	7	5	5.5
San Antonio, Tex	7	5	5.5
Port Arthur, Tex	8.5	5	5.5

Continental Oil

Conoco Bronz-z-z (*Regular Grade*)

	†T.W.	Dealer	Gasoline Taxes	Kerosine ‡T.W.
Denver, Col	8	..	5.5	10.5
Grand Junction, Col	12.5	..	5.5	12.5
Pueblo, Col	10	..	5.5	9
Casper, Wyo	11.5	..	5.5	11.5
Cheyenne, Wyo	9	..	5.5	11
Billings, Mont	12	..	6.5	12
Butte, Mont	9	..	6.5	13
Great Falls, Mont	12	..	6.5	12
Helena, Mont	10	..	6.5	12.5
Salt Lake City, Utah	10.5	..	5.5	14
Boise, Ida	*14.1	..	6.5	16
Twin Falls, Ida	*15.1	*15.1	6.5	16.5
Albuquerque, N. M	8	..	*7	9.5
Roswell, N. M	7	..	*7	8
Santa Fe, N. M	8.5	..	*7.5	9.5
Ft. Smith, Ark	9.5	..	5.5	7.5
Little Rock, Ark	9.25	..	8	8
Texarkana, Ark	8	..	5.5	7
Muskogee, Okla	7	..	5.5	7
Oklahoma City, Okla	5	..	5.5	6.5
Tulsa, Okla	6	..	5.5	6

Demand Gasoline (*Third Grade*)

Denver, Col	6	..	5.5	....
Grand Junction, Col	11.5	..	5.5	....
Pueblo, Col	8	..	5.5	....
Casper, Wyo	10.5	..	5.5	....
Cheyenne, Wyo	8	..	5.5	....
Billings, Mont	11	..	6.5	....
Butte, Mont	8	..	6.5	....
Great Falls, Mont	11	..	6.5	....
Helena, Mont	9	..	6.5	....
Salt Lake City, Utah	8.5	..	5.5	....
Boise, Ida	*13.1	..	6.5	....
Twin Falls, Ida	*14.1	*14.1	6.5	....
Albuquerque, N. M	7	..	*7	....
Roswell, N. M	6	..	*7	....
Santa Fe, N. M	7.5	..	*7.5	....
Ft. Smith, Ark	6.25	..	5.5	....
Little Rock, Ark	7.5	..	8	....
Texarkana, Ark	5	..	5.5	....
Muskogee, Okla	6	..	5.5	....
Oklahoma City, Okla	4.50	..	5.5	....
Tulsa, Okla	5	..	5.5	....

Conoco Special Gasoline (Aviation)

	T.W. & Dealer Price	Gasoline Taxes
Denver, Colo	15	5.5
Cheyenne, Wyo	15.5	5.5
Helena, Mont	22.5	6.5
Salt Lake City, Utah	18	5.5
Albuquerque, N. M	14	*7

*Taxes: In gasoline tax column are included these city taxes—Albuquerque and Roswell, 0.5c; Santa Fe, 1c. Idaho prices include 0.1c to cover 1-mill tax for toll bridges.

†To consumers; also to dealers at points where no dealer prices are shown.

‡To consumers and dealers.

S. O. California

Standard Gasoline (*Regular Grade*)

	Tank Truck	Retail	Gasoline Taxes	Kerosine T.W.
San Francisco, Cal	12	13	4.5	11.5
Los Angeles, Cal	11.5	12.5	4.5	10
Fresno, Cal	13	14	4.5	12.5
Phoenix, Ariz	14	15	6.5	*12.5
Reno, Nev	14	15	5.5	13.5
Portland, Ore	12.5	13.5	6.5	13.5
Seattle, Wash	12.5	13.5	6.5	13.5
Spokane, Wash	14	15	6.5	16.5
Tacoma, Wash	12.5	13.5	6.5	13.5

Flight Gasoline (*Third Grade*)

San Francisco, Cal	10	11	4.5	....
Los Angeles, Cal	9.5	10.5	4.5	....
Fresno, Cal	11	12	4.5	....
Reno, Nev	12	13	5.5	....
Phoenix, Ariz	11	12	6.5	....
Portland, Ore	10.5	11.5	6.5	....
Seattle, Wash	10.5	11.5	6.5	....
Spokane, Wash	12	13	6.5	....
Tacoma, Wash	10.5	11.5	6.5	....

S. O. California (Cont'd)

Stanavo Aviation Gasoline

Phoenix, Ariz	17.5	..	6.5	....
Los Angeles, Cal	15	..	4.5	....
San Francisco, Cal	15.5	..	4.5	....
Reno, Nev	17.5	..	5.5	....
Portland, Ore	16	..	6.5	....
Seattle, Wash	16	..	6.5	....
Spokane, Wash	19	..	6.5	....

*Taxes: Arizona kerosine prices are ex 5c state tax.

Discounts:

To 100% dealers—3c off t.w. on Standard and Stanavo Aviation; 2c off t.w. on Flight.

Canada

PRICES OF IMPERIAL OIL LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline (*Regular Grade*)

	T.W.	Gasoline Taxes	Kerosine T.W.
Hamilton, Ont	16	8	16.50
Toronto, Ont	16	8	16.50
Brandon, Man	21	7	22.50
Winnipeg, Man	20	7	21.50
Regina, Sask	18	7	20
Saskatoon, Sask	21	7	23
Edmonton, Alta	18	7	20
Calgary, Alta	16	7	18
Vancouver, B. C	16	7	23
Montreal, Que	16	8	16.5
St. John, N. B	14.50	10	18
Halifax, N. S	14.50	10	18

Discounts: To undivided dealers, 1c off t.w. price, except Maritime Provinces where undivided dealers pay t.w. price, and except Vancouver, B. C. where both divided and undivided dealers get 2c off t.w. price. Divided dealers pay t.w. price thru territory.

Price Changes

(These changes have been made in price tables)

S. O. New Jersey—Esso dealer t. w.:

Charlotte cut 0.5c, Salisbury cut 1c, June 29.
Raleigh cut 1c, June 28.

S. O. New Jersey—Kerosine:

Atlantic City and Newark t. w. cut 0.3c, July 2.

Socony-Vacuum—Mobilgas:

Buffalo t. c. up 0.2c; dealer t. w. cut 0.5c, July 5.
Rochester t. c. up 0.9c, June 11.
Syracuse t. c. up 0.4c, June 11; dealer t. w. cut 0.6c, July 5.
Hartford dealer t. w. cut 0.5c, July 3.
Manchester dealer t. w. up 0.5c, July 6.

S. O. Kentucky—Corrections:

Montgomery kerosine was cut 2c to 8c ex tax Apr. 12 instead of 1c cut reported in NPN of Apr. 24; advanced 1c to 9c ex tax June 14 instead of to 10c as reported in NPN of July 3. Atlanta kerosine has been 9c ex tax on and since June 11. Macon kerosine has been 9c ex tax on and since Feb. 15.

S. O. Indiana—Red Crown:

Grand Rapids dealer cut 0.3c, July 2.

Canada; Imperial Oil Ltd.—3 Star Imperial Gasoline:

Hamilton and Toronto t. w. up 0.5c, June 28.
Winnipeg t. w. up 0.5c, June 29.

Canada; Imperial Oil Ltd.—Kerosine:

Hamilton and Toronto t. w. up 0.5c, June 28.
Brandon up 0.5c, Winnipeg up 1c, June 29.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates as given

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (June 18, 1940)

Bradford-Allegany	$2.25
Southwest Penna	$1.90
Eureka (West Va.)	$1.84
Corning, O. (Nov. 4, 1939)	$1.12

Posted by Tide Water Assoc. Oil Co. (June 18, 1940)

Bradford-Allegany	$2.25

Posted by The Pennzoil Co. (June 18, 1940)

National Transit	$2.18*

Posted by Valvoline Pipe Lines (June 18, 1940)

Bradford (Elk & McKean Counties, Pa.)	$2.25
Warren, Forest, Venango, Clairon & Butler Counties, Pa	$2.18
Allegheny, Beaver, Washington & Greene Counties, Pa	$1.90
West Virginia	$1.84
South Eastern Ohio	$1.80

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.13 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (Oct. 9, 1939)

Midland, Midland County	$1.02
Sherman	$0.97
Clare-Freeman	$0.97

Posted by Simrall Corp. (Oct. 9, 1939)

Crystal, Greendale, Porter, Vernon and Wise	$1.02
Beaverton, Buckeye, Bentley, Edenville	$1.00
Freeman and Redding	$0.97
Arenac	$0.82
West Branch (Nov. 1, 1939)	$0.85

Posted by Sohio Corp. (Michigan Division)

Allegan & Kent Counties (April 27, 1940)	$1.08
Van Buren County (May 1, 1940)	$1.08

Posted by Bay Pipe Line Corp. (Oct. 9, 1939)

Bentley and Buckeye	$1.00
Saginaw and Wise..$1.02 Clare	$0.76

ILLINOIS-INDIANA-KENTUCKY

Posted by Ohio Oil Co. (June 8, 1939)

Illinois and Western Indiana	$0.95
Illinois Basin	$1.05

Posted by Sohio Corp.

Illinois Basin:

Salem (Lake Centralia) (Oct. 21, 1939)	$1.05
Balance of Illinois Basin (June 8, 1939)	$1.05
Griffin (So. Ill.-Ind.) pool (May 25, 1940)	$1.00

Posted by Carter Oil Co. (June 10, 1939)

Louden, Fayette County, Ill.	$1.05

Posted by Mohawk Oil Lines, Inc. (June 1, 1940)

Southern Ill. heavy..$0.90 light	$1.00

Posted by Ashland Oil & Transportation Co. (June 9, 1939)

Somerset Oil in Ashland Lines, Kentucky:
Big Sandy River...$1.02 Kentucky River...$1.10

Posted by Sohio Corp. (June 9, 1939)

Birk City, Ky. Area	$0.90
Corydon, Ky. Area (Henderson)	$0.90

Posted by Owensboro-Ashland Co.

Owensboro, Ky. Area (June 9, 1939)	$1.00

CANADIAN FIELDS

Posted by Imperial Oil Limited Western Ontario (Nov. 6, 1939)

Petrolia	$2.10	Oil Springs	$2.17

Alberta Turner Valley (Jan. 5, 1938)
(Prices f.o.b. field tankage)

Crude Oil

40-40.9°	$1.14	53-53.9	$1.40
41-41.9	1.16	54-54.9	1.42
42-42.9	1.18	55-55.9	1.44
43-43.9	1.20	56-56.9	1.46
44-44.9	1.22	57-57.9	1.48
45-45.9	1.24	58-58.9	1.50
46-46.9	1.26	59-59.9	1.52
47-47.9	1.28	60-60.9	1.54
48-48.9	1.30	61-61.9	1.56
49-49.9	1.32	62-62.9	1.58
50-50.9	1.34	63-63.9	1.60
51-51.9	1.36	64-64.9	1.62
52-52.9	1.38		

Crude Naphtha, 65 grav. & above $2.14

Absorption Gasoline

90% Rec., 20 lb. Reid v.p.	$1.94
90% Rec., 17 lb. Reid v.p.	$2.08

*MID-CONTINENT—Oklahoma-Kansas

	S. O. Indiana	Carter Magnolia Shell	Continental Texas Co.	Sinclair Prairie
Below 21°	$0.70	$0.60	....	....
21-21.9	.72	.63	....	....
22-22.9	.74	.66	....	....
23-23.9	.76	.69	....	....
24-24.9	.78	.72	....	....
25-25.9	.80	.75	....	$0.58
26-26.9	.82	.78	....	.63
27-27.9	.84	.81	....	.68
28-28.9	.86	.84	$0.86	.73
29-29.9	.88	.87	.88	.78
30-30.9	.90	.90	.90	.82
31-31.9	.92	.92	.92	.86
32-32.9	.94	.94	.94	.90
33-33.9	.96	.96	.96	.96
34-34.9	.98	.98	.98	.98
35-35.9	1.00	1.00	1.00	1.00
36-36.9	1.02	1.02	1.02	1.02
37-37.9	1.04	1.04	1.04	1.04
38-38.9	1.06	1.06	1.06	1.06
39-39.9	1.08	1.08	1.08	1.08
40 & above	1.10	1.10	1.10	1.10

*Effective in 1938 by Carter Oil, Oct. 13, posting in Okla. only: Continental Oil, Oct. 11, with lowest grade below 29; Magnolia, Oct. 12, posting in Okla. only; Shell, Oct. 22; S. O. Indiana, Oct. 17; The Texas Co., Oct. 12. Aug. 31, 1939, by Sinclair-Prairie.

*North-North Central and Central Texas

	Stanolind	Sinclair Texas Co. Continental Magnolia
Below 21°	$0.60	....
21-21.9	.62	....
22-22.9	.64	....
23-23.9	.66	....
24-24.9	.68	$0.79
25-25.9	.70	for
26-26.9	.72	oil
27-27.9	.74	below
28-28.9	.76	29°.
29-29.9	.78	.81
30-30.9	.80	.83
31-31.9	.82	.85
32-32.9	.84	.87
33-33.9	.86	.89
34-34.9	.88	.91
35-35.9	.90	.93
36-36.9	.92	.95
37-37.9	.94	.97
38-38.9	.96	.99
39-39.9	.98	1.01
40 & above	1.00	1.03

*Effective Oct. 11, 1938 by Continental, in North Tex.; Oct. 12, 1938, by Texas Co. in North & North Central Texas. Texas Co.'s lowest grade is 28-28.9, at $0.79; by Magnolia, Dec. 3, 1938, in N. and N. Central Texas; Oct. 5, 1939 by Sinclair Prairie in Mexia and N. Cent. Texas.

Jefferson County, Texas—Beaumont

(Posted by Magnolia Petroleum Co., Effective Oct. 2, 1939, and by Stanolind Oil & Gas Co., for West Beaumont, Effective Oct. 2, 1939)

Below 20°	$0.86	30-30.9	$1.08
20-20.9	.88	31-31.9	1.10
21-21.9	.90	32-32.9	1.12
22-22.9	.92	33-33.9	1.14
23-23.9	.94	34-34.9	1.16
24-24.9	.96	35-35.9	1.18
25-25.9	.98	36-36.9	1.20
26-26.9	1.00	37-37.9	1.22
27-27.9	1.02	38-38.9	1.24
28-28.9	1.04	39-39.9	1.26
29-29.9	1.06	40 & above	1.28

TEXAS FIELDS

Posted by Humble Oil & Refining Co.

*West Central Texas (Aug. 11, 1939)

24-24.9	$0.71	33-33.9	$0.89
25-25.9	.73	34-34.9	.91
26-26.9	.75	35-35.9	.93
27-27.9	.77	36-36.9	.95
28-28.9	.79	37-37.9	.97
29-29.9	.81	38-38.9	.99
30-30.9	.83	39-39.9	1.01
31-31.9	.85	40 & above	1.03
32-32.9	.87		

*Includes Brown, Callahan, Coleman, Comanche, Eastland, Fisher, Huskell, Jones, Shackelford, Stephens, Throckmorton and Young Counties.

Effective Aug. 29, 1939, Shell posted in Fisher county, Tex., prices 3c lower than Humble's West Central Texas prices; Shell's schedule begins with below 25, at $0.68 and ends with 40 & above, at $1.

Note: Effective Oct. 1, 1937, Humble prices are based on 100% tank tables at 60F.

*East Central Texas (Aug. 11, 1939)

23-23.9	$0.78	32-32.9	$0.96
24-24.9	.80	33-33.9	.98
25-25.9	.82	34-34.9	1.00
26-26.9	.84	35-35.9	1.02
27-27.9	.86	36-36.9	1.04
28-28.9	.88	37-37.9	1.06
29-29.9	.90	38-38.9	1.08
30-30.9	.92	39-39.9	1.10
31-31.9	.94	40 and above	1.12

Posted by Pan American Pipe Line Co.
(Oct. 2, 1939)

Cayuga, Anderson county	$0.78

*Including Anderson, Cherokee, Limestone, Navarro counties.

PANHANDLE TEXAS

	Humble (Aug. 11, 1939) Gray County	Carson Hutchinson	Texas Co. (Oct. 2, 1939) Sweet	Sour
28-28.9	$0.72	$0.67	....	....
29-29.9	.74	.69	....	....
30-30.9	.76	.71	....	....
31-31.9	.78	.73	....	....
32-32.9	.80	.75	....	....
33-33.9	.82	.77	....	....
34-34.9	.84	.79	$0.84	$0.79
35-35.9	.86	.81	.86	.81
36-36.9	.88	.83	.88	.83
37-37.9	.90	.85	.90	.85
38-38.9	.92	.87	.92	.87
39-39.9	.94	.89	.94	.89
40 & above	.96	.91	.96	.91

Effective Aug. 31, 1939, Sinclair Prairie met Humble in Panhandle Texas. Dec. 3, 1938, Magnolia posted same schedule as Humble.

*EAST TEXAS

By Humble, Shell, Sinclair-Prairie, Stanolind, Gulf, Magnolia, Texas Co., Tide Water-Associated $1.10

*Effective dates: Aug. 11, 1939, by Humble and Tide Water-Associated; Aug. 29, 1939, by Stanolind; Oct. 2, 1939 by Sinclair Prairie; Oct. 5, 1939 by Shell; Oct. 12, 1938, by Magnolia, Texas Co.; Oct. 13, 1938, by Gulf.

*Includes Cherokee, Gregg, Rusk, Smith and Upshur counties.

Posted by Shell Oil Co., Inc. (Oct. 5, 1939)

Polk County, Tex. (Livingston area)	$1.10

NORTHEAST TEXAS

(Posted by Humble, Oct. 2, 1939)

Talco	$0.65

(Posted by Magnolia, Oct. 12, 1938)

Cass County and Panola County, Tex.:

Magnolia posts below 25° at $0.73, plus 2c differential for each degree, to top grade of 40 & above, at $1.05.

(Posted by The Texas Co., Oct. 12, 1938)

Cass County	$1.05

(a) WEST TEXAS and NEW MEXICO

	Humble	Stanolind	Shell	Texas Co. Sinclair (c)
Below 20°	$0.53	....	$0.53	....
20-20.9	.55	....	.55	....
21-21.9	.57	....	.57	....
22-22.9	.59	$0.67	.59	....
23-23.9	.61	for	.61	....
24-24.9	.63	oil	.63	....
25-25.9	.65	Below	.65	$0.65
26-26.9	.67	26°.	.67	.67
27-27.9	.69	.69	.69	.69
28-28.9	.71	.71	.71	.71
29-29.9	.73	.73	.73	.73
30-30.9	.75	.75	.75	.75
31-31.9	.77	.77	.77	.77
32-32.9	.79	.79	.79	.79
33-33.9	.81	.81	.81	.81
34-34.9	.83	.83	.83	.83
35-35.9	.85	.85	.85	.85
36-36.9	.87	.87	.87	.87
37-37.9	.89	.89	for	for
38-38.9	.91	.91	oil	oil
39-39.9	.93	.93	36° &	36° &
40 & above	.95	.95	above.	above.

Posted by Magnolia Petroleum Co.

(Oct. 12, 1938 in West Texas;
Oct. 15, 1939 in Lea County, N. Mex.)

	West Texas	N. Mex.		West Texas	N. Mex.
Below 25.	$0.63	$0.63	33-33.9	$0.81	$0.81
25-25.9	.65	.65	34-34.9	.83	.83
26-26.9	.67	.67	35-35.9	.85	.85
27-27.9	.69	.69	36-36.9	.87	.87
28-28.9	.71	.71	37-37.9	.89	for
29-29.9	.73	.73	38-38.9	.91	oil
30-30.9	.75	.75	39-39.9	.93	36 &
31-31.9	.77	.77	40 & over.		.95 above
32-32.9	.79	.79			

Note: Magnolia's West Texas postings are in Crane, Glasscock, Howard, Mitchell, Upton and Winkler counties.

Pecos County, West Texas

(Posted by Humble Aug. 11, 1939 and Shell, Aug. 29 '39)

Pecos	$0.78
Yates Shallow Pool (Shell only)	.65

Posted by Sinclair Prairie Oil Marketing Co.

(Aug. 31, 1939)

Eddy county, N. Mex.	$0.77

(a) Effective Aug. 11, 1939 by Humble; Shell Oil, Aug. 29, 1939; by The Texas Co., Oct. 12, 1938; Stanolind, Aug. 29, 1939; Sinclair Prairie, Aug. 31, 1939.

(c) Texas Co. posts $0.65 for below 26; Sinclair Prairie, $0.63 for below 25.

Note: Humble's postings are in these counties: Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler and Yoakum, West Texas; and Lea county, N. Mex.; Shell, in Crane, Ector, Glasscock, Howard, Upton, Winkler, Yoakum, Lea; Stanolind in Hendrick and Henderson field, Winkler county; Texas Co. in Ward, Winkler and Lea

Posted by Continental Oil Co. (Oct. 11, 1938)

Artesia, Jackson and Maljamar pools, New Mexico; gravity schedule beginning with below 29, at $0.61; 29-29.9, at $0.63; plus 2c differential for each gravity, up to 40 & above, at $0.85.

COLORADO

Posted by Continental Oil Co. (Oct. 11, 1938)

Ft. Collins and Wellington

Below 29	$0.81	35-35.9	$0.95
29-29.9	.83	36-36.9	.97
30-30.9	.85	37-37.9	.99
31-31.9	.87	38-38.9	1.01
32-32.9	.89	39-39.9	1.03
33-33.9	.91	40 & above	1.05
34-34.9	.93		

Canon City and Florence, Col.	$0.90

SOUTH AND SOUTHWEST TEXAS

All Shown Below Posted by Humble Oil & Refining Co. (Aug. 11, 1939)

Carroll, Clark, Darst Creek, Hilbig, Salt Flat and Zoboroski crudes	$0.96
Van crude	$0.93
Conroe	$1.27

(Oct. 2, 1939)

Flour Bluff and Jim Wells County	$1.23

(Sept. 14, 1939)

Hardin, Liberty county	$1.10

Oct. 12, '38, Magnolia posted $0.96 in Darst Creek; $0.87 in Luling; $0.99 in Lytton Springs; $1.14 for Cleveland, and $1.02 in Hardin, both in Liberty county, Tex.

Oct. 12, '38, The Texas Co. posted $0.96 in Darst Creek.

(Continued on next page)

CRUDE OIL PRICES

(Continued from preceding page)

***Anahuac-Dickinson** (Oct. 2, 1939)

Below 20°	$0.81	30-30.9	$1.03
20-20.9	.83	31-31.9	1.05
21-21.9	.85	32-32.9	1.07
22-22.9	.87	33-33.9	1.09
23-23.9	.89	34-34.9	1.11
24-24.9	.91	35-35.9	1.13
25-25.9	.93	36-36.9	1.15
26-26.9	.95	37-37.9	1.17
27-27.9	.97	38-38.9	1.19
28-28.9	.99	39-39.9	1.21
29-29.9	1.01	40 & above	1.23

*Anahuac-Dickinson includes Cedar Point, Fairbanks, Gillock, Hull, Pierce Junction and Raccoon Bend (shallow sand) and Turtle Bay.

Raccoon Bend (Deep sand crude) Tomball and Satsuma (Aug. 11, 1939)

22-22.9	$0.95	32-32.9	$1.15
23-23.9	.97	33-33.9	1.17
24-24.9	.99	34-34.9	1.19
25-25.9	1.01	35-35.9	1.21
26-26.9	1.03	36-36.9	1.23
27-27.9	1.05	37-37.9	1.25
28-28.9	1.07	38-38.9	1.27
29-29.9	1.09	39-39.9	1.29
30-30.9	1.11	40 & above	1.31
31-31.9	1.13		

Dec. 3, 1938, Magnolia posted above price and gravity schedule in Tomball. Effective Aug. 29, 1939, Stanolind met Humble in Tomball, except that Stanolind's schedule begins with below 29 at $1.07.

LOUISIANA-ARKANSAS

Posted by Standard Oil Co. of Louisiana

(†) (For effective dates, see footnote)

	*N. La. Ark. Sweet	Bunkie Eola, La.	*South La. Sour	*Ark. Sour	Baton Rouge-University
Below 20°	....	....	....	....	$0.79
20-20.9	$0.73	$0.83	‡$0.74	$0.63	.82
21-21.9	for	for	.77	for	.85
22-22.9	oil	oil	.80	oil	.88
23-23.9	Below	Below	.83	Below	.91
24-24.9	25°.	25°.	.86	25°.	.94
25-25.9	.75	.85	.89	.65	.97
26-26.9	.77	.87	.92	.67	1.00
27-27.9	.79	.89	.94	.69	1.02
28-28.9	.81	.91	.96	.71	1.04
29-29.9	.83	.93	.98	.73	1.06
30-30.9	.85	.95	1.00	.75	1.08
31-31.9	.87	.97	1.02	.77	1.10
32-32.9	.89	.99	1.04	.79	1.12
33-33.9	.91	1.01	1.06	.81	1.14
34-34.9	.93	1.03	1.08	.83	1.16
35-35.9	.95	1.05	1.10	.85	1.18
36-36.9	.97	1.07	1.12	.87	1.20
37-37.9	.99	1.09	1.14	.89	1.22
38-38.9	1.01	1.11	1.16	.91	1.24
39-39.9	1.03	1.13	1.18	.93	1.26
40 & above	1.05	1.15	1.20	.95	1.28

(Aug. 30, 1939)

Smackover, Ark.	$0.73
Cotton Valley Distillate	$1.20

*N. La.-Ark. Sweet includes Caddo, Cotton Valley, Cross Lake, De Soto, Haynesville, Homer, Rodessa, Sabine and Sligo, La. crudes, and Miller county, Ark. S. La. Sour includes Choctaw, Darrow, N. Crowley, Roanoke and St. Martinsville. S. Ark. Sour includes Buchner, Magnolia and Village pools.

†N. La.-Ark. Sweet crude and S. La. Sour effective Aug. 30, 1939, except Cross Lake, La., Sept. 7, Baton Rouge-Univ., Sept. 11, and Bunkie and Eola, Oct. 23, 1939; and Ark. Sour, Sept. 13, 1939.

‡For Below 21°.

Effective Sept. 8, 1939, Gulf Refg. Co. met S. O. La's. N. La.-Ark. Sweet prices in Bull Bayou, Caddo, Crichton, De Soto, Haynesville, Homer, and El Dorado

Posted by Arkansas Fuel Oil Corp.

Urania, La. (Jan. 28, 1937)	$1.02

Posted by Continental Oil Co.

(Oct. 11, 1938)

Tepetate and Ville Platte, La.	$1.03

(Jan. 1, 1939)

Abbeville, La.

Below 36	$0.92	38-38.9	$0.98
36-36.9	.94	39-39.9	1.00
37-37.9	.96	40 & above	1.02

Posted by Caddo Crude Oil Purchasing Corp.

(Aug. 14, 1939)

Allison area, Shreveport field	$0.95

Lisbon, N. La. (Sept. 14, 1939)

27-27.9	$0.66	32-32.9	$0.76
28-28.9	.68	33-33.9	.78
29-29.9	.70	34-34.9	.80
30-30.9	.72	35 & above	.82
31-31.9	.74		

Lisbon prices met by Gulf, Sept. 14.

Note: S. O. Louisiana prices in all La.-Ark. fields, effective Oct. 5, 1938, are on 100% tank table basis.

GULF COASTAL FIELDS

(a) (For effective dates, see footnote)

	Humble Sinclair Stano-lind	Continental Refugio Crude (Humble, Conti-nental)	Texas Co.	Shell
Below 20	$0.86	$0.91	$0.86	(b)$0.79
20-20.9	.88	.93	.88	.81
21-21.9	.90	.95	.90	.83
22-22.9	.92	.97	.92	.86
23-23.9	.94	.99	.94	.89
24-24.9	.96	1.01	.96	.92
25-25.9	.98	1.03	.98	.95
26-26.9	1.00	1.05	1.00	.98
27-27.9	1.02	1.07	1.02	1.00
28-28.9	1.04	1.09	1.04	1.02
29-29.9	1.06	1.11	1.06	1.04
30-30.9	1.08	1.13	1.08	1.06
31-31.9	1.10	1.15	1.10	1.08
32-32.9	1.12	1.17	1.12	1.10
33-33.9	1.14	1.19	1.14	1.12
34-34.9	1.16	1.21	1.16	1.14

(Continued in next column)

35-35.9	1.18	1.23	for	for
36-36.9	1.20	1.25	oil	oil
37-37.9	1.22	1.27	34° &	34° &
38-38.9	1.24	1.29	above.	above.
39-39.9	1.26	1.31		
40 & above	1.28	1.33		

(a) Effective Oct. 2, 1939 by Continental, Humble and Texas Co.; Oct. 3, 1939 by Sinclair and Stanolind; Aug. 29, 1939 by Shell. Stanolind's lowest grade is below 21, at $0.88. Refugio, effective Oct. 2, '39 by Humble.

(b) Shell posts these prices in Iowa district, Black Bayou and White Castle, La.; prices in Iowa district have 2 lower grades: below 18, at $0.75, 18-18.9, $0.77; and 19-19.9, is $0.79.

Note: Humble's Gulf Coast prices apply in these Texas fields: Amelia, Clear Lake, Goose Creek, Mirando which includes Duval, Jim Hogg, Webb and Zapata counties and Heyser and Placedo fields; Mykawa, Sugarland, Thompsons and Webster.

Humble's prices in Refugio include crudes purchased in Saxet, East White Point, Greta, O'Connor-McFadden, Taft, Plymouth and Tom O'Connor fields.

Stanolind's prices apply in High Island and Spindletop; also in Clinton, Hastings and South Houston, where, effective Jan. 1, 1940, lowest grade is below 21° at $0.88; rest of schedule same as other Gulf Coast. Magnolia posts Mirando, effective Oct. 2, same prices as Humble. Texas Co.'s prices are in Texas and La., Gulf Coast; its prices on Refugio are same as Humble's up to 28 gravity; 28 & above, $1.09; on Duval-Mirando same as Humble's up to 28; 28 & above, $1.04; it posts Golden Meadow, La., 24-30 grav., $0.90, plus 2c differential, to 40 & above, $1.10.

Posted by Shell Oil Co., Inc. (Aug. 29, 1939)

Gibson field, Terreborne Parish, La.	$1.04

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co.

(Effective Oct. 11, 1938)

Salt Creek, (except Tensleep crude), Midway and Dutton Creek, Wyo., same schedule as Stanolind posts in Oklahoma-Kansas, ranging from $0.86 to $1.10, which see under Mid-Continent crude on previous page.

Tensleep, Salt Creek field	$0.646
Hes, heavy	0.92
Elk Basin, light	0.90
Grass Creek, light	0.90
Frannie light	0.55
Grass Creek, heavy	0.40
Hamilton Dome, Wyo.	0.35
Frannie heavy	0.42

Posted by Ohio Oil Co. (Oct. 11, 1938)

Elk Basin, Wyo.	$0.90	Rock Creek	1.00
Grass Creek, light	0.90	Lance Creek	0.77
Dry Creek, Mont.			0.92
Grass Creek, heavy (May 1, 1938)			$0.50
Sunburst, Mont. (Nov. 16, 1937)			$0.90

Posted by Continental Oil Co.

(Oct. 11, 1938)

Cat Creek, Mont.	$1.10
Big Muddy, Wyo.	0.98
Lance Creek, Wyo.	0.77

CALIFORNIA, *Posted by Standard Oil of California*

All gravities above those quoted take highest price offered in the field. Prices effective Feb. 1, 1940

Gravity	Signal Hill (Long Beach) and others*	Seal Beach	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley Canal	Coles Levee Richfield Western	Mountain View and others**	Elk Hills	Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria Val. (Union Oil, Sept. 1 '39)
14-14.9	$0.65	$0.64	$0.63	$0.64	$0.65	$0.61	....	$0.65	$0.61	$0.61	$0.62	$0.63	....	....	....	$0.60	$0.60	$0.60	$0.60	$0.60	....	$0.42
15-15.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.44
16-16.9	.65	.64	.63	.64	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.45
17-17.9	.65	.64	.63	.68	.65	.61	....	.65	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	.46
18-18.9	.65	.64	.63	.71	.65	.65	....	.68	.61	.61	.62	.63	....	....	....	.60	.60	.60	.60	.60	....	....
19-19.9	.69	.64	.67	.75	.70	.69	....	.72	.61	.65	.62	.63	....	....	....	.60	.64	.64	.64	.61	$0.60	....
20-20.9	.73	.64	.72	.79	.76	.74	....	.75	.65	.69	.62	.67	....	....	....	.60	.69	.69	.69	.62	.60	....
21-21.9	.78	.64	.76	.82	.81	.78	....	.79	.69	.73	.62	.72	$0.63	....	....	.64	.74	.74	.74	.66	.60	....
22-22.9	.82	.69	.81	.86	.86	.82	....	.82	.73	.77	.66	.76	.63	....	....	.68	.79	.79	.78	.70	.63	....
23-23.9	.86	.75	.85	.89	.92	.86	$0.71	.86	.78	.82	.71	.81	.67	....	....	.71	.84	.84	.82	.74	.67	....
24-24.9	.90	.80	.90	.93	.97	.90	.77	.89	.82	.86	.75	.85	.72	....	....	.75	.89	.89	.86	.78	.71	....
25-25.9	.95	.86	.94	.96	1.02	.95	.82	.93	.86	.90	.80	.89	.77	....	....	.79	.94	.94	.90	.82	.75	....
26-26.9	.99	.91	.99	1.00	1.08	.99	.88	.96	.90	.94	.84	.94	.82	....	....	.83	.99	.99	.95	....	....	....
27-27.9	1.03	.97	1.03	1.04	....	1.03	.94	1.00	.94	.98	.89	.98	.87	$0.83	$0.92	.87	1.04	1.04	.99	....	....	....
28-28.9	1.07	1.02	1.07	1.07	....	1.07	.99	1.03	.98	....	.93	1.02	.91	.86	.96	.91	1.09	1.09	1.03	....	....	....
29-29.9	1.10	1.07	1.11	1.10	....	1.10	1.04	1.06	1.02	....	.98	1.06	.96	.90	.99	.95	1.14	1.14	1.07	....	....	....
30-30.9	1.14	1.12	1.15	1.14	....	1.14	1.09	1.09	....	....	1.02	1.10	1.01	.94	1.02	.99	1.19	1.19	1.11	....	....	....
31-31.9				1.17		1.17	1.14	Elwood Terrace			1.07	1.14	1.05	.98	1.06	1.02	1.24	1.24				....
32-32.9				1.20		1.20	1.19	F. o. b. ship.			1.11	1.18	1.09	1.02	1.09	1.06	1.29	1.29	Kettleman Hills			....
33-33.9						....	1.24	....	$1.21	....	1.15	1.22	1.14	1.06	1.13	1.10	1.34	1.34	....	$1.12	....	....
34-34.9						....	1.29	....	1.25	....	1.20	1.26	1.19	1.10	1.16	1.14	....	....	....	1.17	....	....
35-35.9						....	1.34	....	1.29	....	1.24	....	1.23	1.14	1.20	....	....	....	....	1.21	....	....
36-36.9						....	1.39	....	1.33	....	1.28	....	1.27	1.18	1.23	....	....	....	....	1.25	....	....
37-37.9						....	1.44	....	1.37	....	1.33	....	1.31	1.22	1.26	....	....	....	....	1.29	....	....
38-38.9						....	1.49	....	....	....	1.37	....	1.36	1.25	1.30	....	....	....	....	1.33	....	....
39-39.9						....	1.54	....	....	....	1.42	....	....	1.29	1.34	....	....	....	....	1.38	....	....
40-40.9						....	1.59	....	....	....	1.46	....	....	1.33	1.37	....	....	....	....	....	....	....
41-41.9						....	....	....	....	....	1.50	....	....	1.37	1.40	....	....	....	....	....	....	....
42-42.9						....	....	....	....	....	1.54	....	....	1.41	1.44	....	....	....	....	....	....	....
43-43.9						....	....	....	....	....	1.59	....	....	1.45	1.47	....	....	....	....	....	....	....
44-44.9						....	....	....	....	....	1.63	....	....	1.49	1.51	....	....	....	....	....	....	....
45-45.9						....	....	....	....	....	1.67	....	....	1.53	1.54	....	....	....	....	....	....	....
46-46.9						....	....	....	....	....	1.71	....	....	1.57	1.57	....	....	....	....	....	....	....
47-47.9						....	....	....	....	....	....	....	....	1.61	....	....	....	....	....	....	....	....
48-48.9						....	....	....	....	....	....	....	....	1.64	....	....	....	....	....	....	....	....

*El Segundo prices same as Signal Hill. Wilmington prices same as Signal Hill, except below 19 gravity prices are: 14-16.9, $0.60; 17-17.9, $0.62; 18-18.9, $0.64.

**Includes Newhall, McKittrick, Kern River, Round Mountain and Kern Front, schedule for which ends with 19-19.9. Mountain View schedule begins with 19-19.9.

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· PERSONALS ·

Because **Curtis R. "Curt" Davis,** has the knack of putting life into almost any party, friends have jokingly referred to him as the "play boy" of the Virginia Oil Men's Assn. conventions. However, Mr. Davis forgets all frivolity when work is called for. He is now engaged in serious work as secretary-treasurer of the Virginia association. Mr. Davis has the Pure Oil commission agency in the Richmond area.

Several up-and-coming candidates for the vacated "play-boy role" are expected to appear at the fall convention at Virginia Beach in September.

* * *

Seekers after rest and relaxation should not attend political conventions, says **E. E. "Ernie" Smith,** Rockford, Ill., president of Smith Oil and Refining Co. who didn't get much "shut-eye" at the Philadelphia G.O.P. gambol.

Mr. Smith took leave of absence from oil cares to assume a few political ones as a delegate to the Republican National Convention, his first one, which he described as "interesting but mighty trying".

Gallery cheering of "We want Willkie" and the swing of Kansas started the Willkie bandwagon rolling, says Mr. Smith, who holds that Willkie's election would "give business a chance to show what it can do. We must win and we can with Willkie", Oilman Smith told NPN.

E. E. Smith

Henry G. Goehring

Henry G. Goehring, Cleveland, has been appointed industrial relations manager of National Refining Co., **Paul Ryan,** president, announced this week. For past 5 years, Mr. Goehring has been manager of industrial relations department of Cuyahoga Works of American Steel and Wire Co. Mr. Goehring's education includes years at Pennsylvania State College, Bethany College and Harvard Business School.

This appointment, states Mr. Ryan, is evidence of how important National views the field of public relations in the petroleum industry.

Other recent appointments at National, are: **Donald G. Gill,** merchandising department; **Raymond D. McGranahan,** purchasing department; **J. W. Getzendanner, Jr.,** control work. All three of these men are graduates of the Harvard Business School. Before entering Harvard, Mr. Gill graduated from University of Washington; Mr. McGranahan from Allegheny College; and Mr. Getzendanner from Duke University.

* * *

Dow Williams, Kansas City, Mo., has been elected assistant secretary of Skelly Oil Co., filling the vacancy left by resignation of that position by **J. D. Powell** of Kansas City. Mr. Powell continues as assistant treasurer of the Skelly company.

* * *

Robert J. Bodie, Chicago, son of **G. L. Bodie,** president of Bodie-Hoover Petroleum Corp., will represent this organization in Kansas, Missouri, Oklahoma and New Mexico. Young Mr. Bodie obtained his Bachelor of Science degree in commerce from Notre Dame in 1937, his law degree in 1939 and was admitted to the bar in the same year. During vacations, he spent considerable time in various departments of a Pennsylvania refinery.

* * *

If O. O. McIntyre, whose daily column about New York City was read by millions all over the United States, were still writing, many of the columnist's followers would probably have read the following item in somewhat this vein:

"While strolling down Park Avenue at a late hour last evening, with my good friend **C. E. Crawley,** vice-president and director of Consolidated Oil Corp., we were remarking how one of the avenue restaurants reminded us of a certain Parisian cafe on the Champs-Elysees. Later we dropped in at Longchamps for coffee. It was a beautiful Manhattan evening. While discussing one of the latest books, Gene (Mr. Crawley) told me that he was resigning from Consolidated, but had no future plans yet. Gene has many friends in the oil industry, and they're scattered pretty well around the world.

"A few years ago, he was president of Sinclair Oil and Gas Co., Tulsa, and also worked for Gypsy Oil Co.—romantic name isn't it? I must find out more about this fascinating oil business."

C. E. Crawley